NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a New Source Review and Federally Enforceable State Operating Permit (FESOP) for Harding Materials, Inc. in Marion County

FESOP Renewal No.: F097-41186-00735

The Indiana Department of Environmental Management (IDEM) has received an application from Harding Materials, Inc., located at 1100 South Tibbs Avenue, Indianapolis, Indiana 46241, for a new source review and renewal of its FESOP issued on December 10, 2014. If approved by IDEM’s Office of Air Quality (OAQ), this proposed permit would allow Harding Materials, Inc. to make certain changes at its existing source. Harding Materials, Inc. has applied to add a recycled asphalt product crusher equipment and cold feed bins to the facility.

The applicant intends to construct and operate new equipment that will emit air pollutants; therefore, the permit contains new or different permit conditions. In addition, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes (e.g., changes that add or modify synthetic minor emission limits). The potential to emit regulated air pollutants will continue to be limited to less than the Title V and PSD major threshold levels. IDEM has reviewed this application and developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow the applicant to make this change.

A copy of the permit application and IDEM’s preliminary findings are available at:

Indianapolis-Marion County Public Library
1216 S Kappes St
Indianapolis, IN 46221

A copy of the preliminary findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/.

A copy of the preliminary findings is also available via IDEM’s Virtual File Cabinet (VFC.) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

How can you participate in this process?

The date that this notice is posted on IDEM’s website (https://www.in.gov/idem/5474.htm) marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the air pollution impact of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting,
you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM’s mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number F097-41186-00735 in all correspondence.

Comments should be sent to:

Mehul Sura
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for Mehul Sura or (317) 233-6868
Or dial directly: (317) 233-6868
Fax: (317)-232-6749 attn: Mehul Sura
E-mail: msura@IDEM.IN.gov

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm; and the Citizens’ Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM’s response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision: The notice will provide details on how you may appeal IDEM’s decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Mehul Sura of my staff at the above address.

Madhu
Madhurima Das
Madhurima D. Moulik, Ph.D., Section Chief
Permits Branch
Office of Air Quality
Federally Enforceable State Operating Permit Renewal with New Source Review (NSR)
OFFICE OF AIR QUALITY

Harding Materials, Inc.
1100 South Tibbs Avenue
Indianapolis, Indiana 46241

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F097-41186-00735
Master Agency Interest ID: 15854

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<td>Madhurima D. Moulik, Ph. D., Section Chief Permits Branch Office of Air Quality</td>
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SECTION A   SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary hot-mix asphalt plant.

Source Address: 1100 South Tibbs Avenue, Indianapolis, Indiana 46241
General Source Phone Number: (317) 213-3593
SIC Code: 2951 (Asphalt Paving Mixtures and Blocks)
County Location: Marion Wayne Township
Source Location Status: Nonattainment for SO2 standard
Source Status: Federally Enforceable State Operating Permit Program
Minor Source, under PSD and Emission Offset Rules
Minor Source, Section 112 of the Clean Air Act
Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) drum-mix, hot-mix asphalt plant, identified as U1, approved in 2014 for construction, with a maximum throughput capacity of 400 tons of raw material per hour, processing reclaimed asphalt pavement (RAP) in the aggregate mix, equipped with one (1) 128 MMBtu per hour natural gas-fired dryer burner, identified as U2, using one (1) cyclone, identified as HC1, and one (1) jet-pulse baghouse, identified as BH1, in series for particulate control, and exhausting through Stack 1.

This source does not produce cold mix asphalt and does not process or use slag and asphalt shingles.

Under NSPS, Subpart I, this is considered an affected facility.

(b) Material storage, handling, and conveying operations, constructed in 2014, consisting of the following:

(1) One (1) aggregate storage area, including:

(A) Sand storage pile(s), total capacity 0.80 acres;
(B) Limestone storage pile(s), total capacity 1.3 acres;
(C) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 1.4 acres; and
(D) Gravel storage pile(s), total capacity 1.2 acres

(2) Material screening and conveying, identified as MSC
(3) Three (3) asphalt product storage silos, identified as S1, S2, and S3, with a maximum storage capacity of 200 tons each, without control, and exhausting outside;

Under NSPS, Subpart I, this is considered an affected facility.

(c) Two (2) asphalt product storage silos, identified as S4 and S5, constructed in 2017, each with a maximum storage capacity of 200 tons, without control, and exhausting outside.

Under NSPS, Subpart I, this is considered an affected facility.

(d) Seven (7) cold feed bins, identified as B1 through B7, constructed in 2016, each with a maximum storage capacity of 200 tons, without control, and exhausting outside.

Under NSPS, Subpart I, this is considered an affected facility.

(e) One (1) Recycled Asphalt Product crusher, identified as RAP crusher, constructed in 2019, with maximum throughput rate 300 tons per hour, without control, consisting of:

   (i) One (1) crusher
   (ii) One (1) screen
   (iii) Four (4) open conveyors

Under NSPS, Subpart OOO, this is considered an affected facility.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

(a) One (1) natural gas-fired hot oil heater, identified as U3, approved in 2014 for construction, with a maximum rated heat input capacity of 1.0 MMBtu per hour, uncontrolled and exhausting to the atmosphere.

(b) Two (2) vertical liquid asphalt storage tanks, having a maximum storage capacity of 25,000 gallons each.

(c) Two (2) Petroleum fuel, other than gasoline, dispensing facilities, dispensing three thousand five hundred (3,500) gallons per day or less and including:

   (1) One (1) 1,000 gallon off-road diesel storage tank, identified as T1, approved in 2014 for construction; and

   (1) One (1) 5,000 gallon on-road diesel storage tank, identified as T2, approved in 2014 for construction.

(d) Activities related to routine fabrication, maintenance, and repair of buildings, structures, equipment, or vehicles at the source where air emissions from those activities would not be associated with any commercial production process, including brazing, soldering, or welding operations and associated equipment.

(e) Cleaners and solvents characterized as follows:

   (1) having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 °C (100 °F) or;

   (2) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi
measured at 20 °C (68 °F); the use of which for all cleaners and solvents combined does not exceed one hundred forty-five (145) gallons per twelve (12) months.

(f) Portable containers used for the collection, storage, or disposal of materials provided the container capacity is equal to or less than forty-six hundredths (0.46) cubic meters (121.5 gallons) and the container is closed, except when the material is added or removed.

(g) Paved and unpaved roads with limited public access.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).
SECTION B  GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]
Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]
(a) This permit, F097-41186-00735, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]
Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-8-6][IC 13-17-12]
Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-8-4(4)]
The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]
This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]
(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]
(a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.
B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

1. Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

2. A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

3. Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

1. Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

2. A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

3. Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

1. An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
2. The permitted facility was at the time being properly operated;
3. During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
4. For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;
   
   Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
   Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
   Facsimile Number: 317-233-6865

5. For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

   Indiana Department of Environmental Management
   Compliance and Enforcement Branch, Office of Air Quality
   100 North Senate Avenue
   MC 61-53 IGCN 1003
   Indianapolis, Indiana 46204-2251

   within two (2) working days of the time when emission limitations were exceeded due to the emergency.

   The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

   (A) A description of the emergency;
   (B) Any steps taken to mitigate the emissions; and
(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to F097-41186-00735 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or
(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee’s right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.16 Permit Renewal [326 IAC 2-8-3(h)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:
Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source’s failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-6-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (c) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region 5
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

(b) Emission Trades [326 IAC 2-8-15(b)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(b).

(c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

(d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Source Modification Requirement [326 IAC 2-8-11.1]
A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]
Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19][326 IAC 2-8-4(6)][326 IAC 2-8-16][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314][326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to
whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.
SECTION C  SOURCE OPERATION CONDITIONS

Emission Limitations and Standards  [326 IAC 2-8-4(1)]

C.1  Overall Source Limit  [326 IAC 2-8]

The purpose of this permit is to limit this source’s potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source’s potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2  Opacity  [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3  Open Burning  [326 IAC 4-1][IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.
C.4 Incineration  [326 IAC 4-2][326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions  [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Fugitive Particulate Matter Emission Limitations  [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A.

C.7 Asbestos Abatement Projects  [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The
notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements  [326 IAC 2-8-4(3)]

C.8 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements  [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.
Compliance Monitoring Requirements  [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

C.10 Compliance Monitoring  [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

C.11 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps  [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.12 Emergency Reduction Plans  [326 IAC 1-5-2][326 IAC 1-5-3]
Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]
C.13 Risk Management Plan [326 IAC 2-8-4][40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.14 Response to Excursions or Exceedances [326 IAC 2-8-4][326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.
The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

**C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-5]**

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

- **(AA) All calibration and maintenance records.**
- **(BB) All original strip chart recordings for continuous monitoring instrumentation.**
- **(CC) Copies of all reports required by the FESOP.**

Records of required monitoring information include the following, where applicable:

- **(AA) The date, place, as defined in this permit, and time of sampling or measurements.**
- **(BB) The dates analyses were performed.**
- **(CC) The company or entity that performed the analyses.**
- **(DD) The analytical techniques or methods used.**
- **(EE) The results of such analyses.**
- **(FF) The operating conditions as existing at the time of sampling or measurement.**

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

**C.17 General Reporting Requirements [326 IAC 2-8-4(3)(C)][326 IAC 2-1.1-11]**

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B -Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.
SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) drum-mix, hot-mix asphalt plant, identified as U1, approved in 2014 for construction, with a maximum throughput capacity of 400 tons of raw material per hour, processing reclaimed asphalt pavement (RAP) in the aggregate mix, equipped with one (1) 128 MMBtu per hour natural gas-fired dryer burner, identified as U2, using one (1) cyclone, identified as HC1, and one (1) jet-pulse baghouse, identified as BH1, in series for particulate control, and exhausting through Stack 1.

This source does not produce cold mix asphalt and does not process or use slag and asphalt shingles.

Under NSPS, Subpart I, this is considered an affected facility.

(b) Material storage, handling, and conveying operations, constructed in 2014, consisting of the following:

(1) One (1) aggregate storage area, including:
   (A) Sand storage pile(s), total capacity 0.80 acres;
   (B) Limestone storage pile(s), total capacity 1.3 acres;
   (C) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 1.4 acres; and
   (D) Gravel storage pile(s), total capacity 1.2 acres

(2) Material screening and conveying, identified as MSC

(3) Three (3) asphalt product storage silos, identified as S1, S2, and S3, with a maximum storage capacity of 200 tons each, without control, and exhausting outside; Under NSPS, Subpart I, this is considered an affected facility.

(c) Two (2) asphalt product storage silos, identified as S4 and S5, constructed in 2017, each with a maximum storage capacity of 200 tons, without control, and exhausting outside.

Under NSPS, Subpart I, this is considered an affected facility.

(d) Seven (7) cold feed bins, identified as B1 through B7, constructed in 2016, each with a maximum storage capacity of 200 tons, without control, and exhausting outside.

Under NSPS, Subpart I, this is considered an affected facility.

(e) One (1) Recycled Asphalt Product crusher, identified as RAP crusher, constructed in 2019, with maximum throughput rate 300 tons per hour, without control, consisting of:

(i) One (1) crusher
(ii) One (1) screen
(iii) Four (4) open conveyors
Under NSPS, Subpart OOO, this is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 FESOP Limits [326 IAC 2-8-4][326 IAC 2-2][326 IAC 8-1-6][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to render 326 IAC 2-7, 326 IAC 2-2, and 326 IAC 8-1-6 not applicable, the Permittee shall comply with the following:

(a) The amount of asphalt processed shall not exceed 820,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Natural gas usage in the dryer/mixer shall not exceed 1,037 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) PM emissions from the dryer/mixer shall not exceed 0.393 pounds per ton of asphalt processed.

(d) The PM10 emissions from the dryer/mixer shall not exceed 0.165 pounds per ton of asphalt processed.

(e) The PM2.5 emissions from the dryer/mixer shall not exceed 0.182 pounds per ton of asphalt processed.

(f) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.

(g) The Permittee shall control PM10 and PM2.5 emissions from the paved and unpaved roads according to the fugitive dust plan, included as Attachment A to the permit.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, NOx and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, NOx and CO to less than 100 tons per 12 consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable.

D.1.2 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a), particulate matter (PM) emissions from the asphalt drum-mix plant (U1), material screening and conveying operations (MSC), storage silos (S1 through S5), bins (B1 through B7), and RAP crusher equipment shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

D.1.3 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

In order to render the requirements of 326 IAC 8-1-6 not applicable to drum-mix hot-mix asphalt plant, Permittee shall comply with the following:
(a) The amount of asphalt processed shall not exceed 820,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The VOC emissions from the dryer/mixer (U1/U2) shall not exceed 0.032 pounds per ton of asphalt processed.

Compliance with these limits shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable to the drum-mix hot-mix asphalt plant.

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any corresponding control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.1.5 Particulate Control

(a) In order to comply with Conditions D.1.1(c) through (e) and D.1.2, the cyclone HC1 and baghouse BH1 for particulate control shall be in operation and control emissions from the drum-mix, hot-mix asphalt plant (U1) at all times when U1 is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.6 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.1(c) through (e) and particulate limit specified in D.1.2 for the asphalt drum-mix plant (U1), the Permittee shall perform PM, PM10, and PM2.5 testing of the dryer/mixer not later than five (5) years from the date of the most recent valid compliance demonstration, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable particulate matter.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the dryer/mixer stack (Stack 1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.8 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, or dust traces.

D.1.9 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.10 Record Keeping Requirement

(a) To document the compliance status with Conditions D.1.1(a), the Permittee shall keep records of the amount of asphalt processed through the dryer/mixer for each month and each compliance period. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

(b) To document the compliance status with Condition D.1.1(b), the Permittee shall maintain monthly records of the amount natural gas usage.

(c) To document the compliance status with Condition D.1.7, the Permittee shall maintain daily records of the visible emission notations from the dryer/mixer stack (Stack 1) exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.
D.1.11 Reporting Requirements

Quarterly summaries of the information to document the compliance status with Conditions D.1.1(a) and (b), shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The reports submitted by the Permittee do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1)
SECTION D.2  EMISSIONS UNIT OPERATION CONDITIONS

Insignificant Activities

(a) One (1) natural gas-fired hot oil heater, identified as U3, approved in 2014 for construction, with a maximum rated heat input capacity of 1.0 MMBtu per hour, uncontrolled and exhausting to the atmosphere; [326 IAC 6-2]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards  [326 IAC 2-8-4(1)]

D.2.1 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from natural gas-fired oil heater U3 shall be limited to 0.6 pounds per MMBtu heat input.
SECTION E.1 NSPS

Emissions Unit Description:

(a) One (1) drum-mix, hot-mix asphalt plant, identified as U1, approved in 2014 for construction, with a maximum throughput capacity of 400 tons of raw material per hour, processing reclaimed asphalt pavement (RAP) in the aggregate mix, equipped with one (1) 128 MMBtu per hour natural gas-fired dryer burner, identified as U2, using one (1) cyclone, identified as HC1, and one (1) jet-pulse baghouse, identified as BH1, in series for particulate control, and exhausting through Stack 1.

This source does not produce cold mix asphalt and does not process or use slag and asphalt shingles.

Under NSPS, Subpart I, this is considered an affected facility.

(b) Material storage, handling, and conveying operations, constructed in 2014, consisting of the following:

(1) One (1) aggregate storage area, including:
   
   (A) Sand storage pile(s), total capacity 0.80 acres;

   (B) Limestone storage pile(s), total capacity 1.3 acres;

   (C) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 1.4 acres; and

   (D) Gravel storage pile(s), total capacity 1.2 acres

(2) Material screening and conveying, identified as MSC

(3) Three (3) asphalt product storage silos, identified as S1, S2, and S3, with a maximum storage capacity of 200 tons each, without control, and exhausting outside;

Under NSPS, Subpart I, this is considered an affected facility.

(c) Two (2) asphalt product storage silos, identified as S4 and S5, constructed in 2017, each with a maximum storage capacity of 200 tons, without control, and exhausting outside.

Under NSPS, Subpart I, this is considered an affected facility.

(d) Seven (7) cold feed bins, identified as B1 through B7, constructed in 2016, each with a maximum storage capacity of 200 tons, without control, and exhausting outside.

Under NSPS, Subpart I, this is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart I.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 New Source Performance Standards (NSPS) for Hot-mix Asphalt Facilities [326 IAC 12]
[40 CFR Part 60, Subpart I]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart I (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

(a) 40 CFR 60.90
(b) 40 CFR 60.91
(c) 40 CFR 60.92
(d) 40 CFR 60.93

Compliance Determination Requirements [326 IAC 2-8-4(1)]

E.1.3 Testing Requirements [326 IAC 2-1.1-11]

In order to document the compliance status with Condition E.1.1, the Permittee shall perform the testing required under 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner, at least once every five (5) years from the date of the most recent valid compliance demonstration. Section C - Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.
### SECTION E.2  NSPS

#### Emissions Unit Description:

- **(e)** One (1) Recycled Asphalt Product crusher, identified as RAP crusher, constructed in 2019, with maximum throughput rate 300 tons per hour, without control, consisting of:
  - **(i)** One (1) crusher
  - **(ii)** One (1) screen
  - **(iii)** Four (4) open conveyors

Under NSPS, Subpart OOO, this is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

#### New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

  - (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart I.

  - (b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:
    
    Indiana Department of Environmental Management  
    Compliance and Enforcement Branch, Office of Air Quality  
    100 North Senate Avenue  
    MC 61-53 IGCN 1003  
    Indianapolis, Indiana 46204-2251

- **E.2.2** Standards of Performance for Nonmetallic Mineral Processing Plants (NSPS) [326 IAC 12] [40 CFR Part 60, Subpart OOO]
  - The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart OOO (included as Attachment C to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:
    
    - (1) 40 CFR 60.670
    - (2) 40 CFR 60.671
    - (3) 40 CFR 60.672
    - (4) 40 CFR 60.673
    - (5) 40 CFR 60.674
    - (6) 40 CFR 60.675
    - (7) 40 CFR 60.676
    - (8) Tables 1 - 3
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION

Source Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, Indiana 46241
FESOP Permit No.: F097-41186-00735

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- [ ] Annual Compliance Certification Letter
- [ ] Test Result (specify)__________________________________________________
- [ ] Report (specify)_____________________________________________________
- [ ] Notification (specify)_________________________________________________
- [ ] Affidavit (specify)___________________________________________________
- [ ] Other (specify)_____________________________________________________

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature: ____________________________
Printed Name: _________________________
Title/Position: _________________________
Date: _________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, Indiana 46241
FESOP Permit No.: F097-41186-00735

This form consists of 2 pages

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<td>• The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</td>
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<tr>
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<td>• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-8-12</td>
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If any of the following are not applicable, mark N/A

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<th>Facility/Equipment/Operation:</th>
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<tr>
<td>Control Equipment:</td>
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<td>Permit Condition or Operation Limitation in Permit:</td>
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<td>Description of the Emergency:</td>
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<td>Describe the cause of the Emergency:</td>
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If any of the following are not applicable, mark N/A

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<td>Date/Time Emergency was corrected:</td>
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<tr>
<td>Was the facility being properly operated at the time of the emergency?  Y  N</td>
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<tr>
<td>Describe:</td>
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<tr>
<td>Type of Pollutants Emitted: TSP, PM-10, SO₂, VOC, NOₓ, CO, Pb, other:</td>
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<tr>
<td>Estimated amount of pollutant(s) emitted during emergency:</td>
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<tr>
<td>Describe the steps taken to mitigate the problem:</td>
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<tr>
<td>Describe the corrective actions/response steps taken:</td>
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<td>Describe the measures taken to minimize emissions:</td>
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<tr>
<td>If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:</td>
</tr>
</tbody>
</table>

Form Completed by: ___________________________________________

Title / Position: ______________________________________________

Date: _______________________________________________________

Phone: ______________________________________________________
Source Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, Indiana 46241
FESOP Permit No.: F097-41186-00735
Facility: Dryer/Mixer
Parameter: Hot-mix Asphalt Production
Limit: The amount of asphalt processed shall not exceed 820,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

QUARTER: _____________________ YEAR: ___________________

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<td>Previous 11 Months</td>
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<td>12 Month Total</td>
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- □ No deviation occurred in this quarter.
- □ Deviation/s occurred in this quarter.
  Deviation has been reported on: _________________________

Submitted by: _________________________________________
Title / Position: _______________________________________
Signature: ____________________________________________
Date: ________________________________________________
Phone: _______________________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, Indiana 46241
FESOP Permit No.: F097-41186-00735
Facility: Dryer/Mixer
Parameter: Natural gas usage
Limit: 1,037 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month

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<th>[Previous 11 Months (million cubic feet)]</th>
<th>[12 Month Total (million cubic feet)]</th>
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<td>Previous 11 Months</td>
<td>12 Month Total</td>
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</table>

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.

Deviation has been reported on: ________________

Submitted by: ________________________
Title / Position: ________________________
Signature: ____________________________
Date: _________________________________
Phone: _______________________________
This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C - General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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<th>Duration of Deviation:</th>
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<td>Probable Cause of Deviation:</td>
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<td>Response Steps Taken:</td>
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Hot-Mix Asphalt Plant Fugitive Particulate Matter Emissions Control Plan (326 IAC 6-5-4)

1. Fugitive particulate matter (dust) emissions from paved roads, and parking lots shall be controlled by one or more of the following measures:

   A. Paved roads and parking lots:
      a. Cleaning by vacuum sweeping on an as needed basis* (monthly at a minimum).
      b. Flushing.
      c. An equivalent alternate measure.

   B. Unpaved roads and parking lots:
      a. Paving with asphalt or concrete.
      b. Treating with a suitable and effective oil or chemical dust suppressant on an as needed basis.
      c. Spraying with water on an as needed basis.
      d. An equivalent measure.

2. Fugitive particulate matter (dust) emissions from aggregate and RAP stockpiles shall be controlled by one or more of the following measures:

   A.Cleaning around the perimeter of aggregate and RAP piles.
   B. Application of a suitable dust suppressant on an as needed basis.
   C. Spraying with water on an as needed basis.
   D. An equivalent alternate measure.

3. Fugitive particulate matter (dust) emission from outdoor conveying of aggregates and RAP shall be controlled by one or more of the following measures:

   A. Apply water or suitable and effective chemical dust suppressant at the feed and the intermediate points on an as needed basis to minimize visible emissions.
   B. An equivalent alternate measure.

4. Fugitive particulate matter (dust) emissions resulting from the transferring of aggregates and RAP shall be controlled by one or more of the following measures:

   A. Minimize the vehicular distance between the transfer points.
   B. Apply water or suitable and effective chemical dust suppressant on transfer points on an as needed basis.
   C. An equivalent alternate measure.

5. Fugitive particulate matter (dust) emissions resulting from transportation of aggregate and RAP by truck, front end loader, etc. shall be controlled by one or more of the following measures:

   A. Tarping the aggregate hauling vehicles.
   B. Maintain vehicle bodies in a condition to prevent leakage of aggregate material.
   C. Spray the aggregates with water or a suitable and effective chemical dust suppressant.
   D. An equivalent alternate measure.
6. Fugitive particulate matter (dust) emissions resulting from the loading and unloading of materials shall be controlled by one or more of the following measures:

   A. Spraying with water or suitable and effective chemical dust suppressant as needed to minimize visible emissions.
   B. Reduction of free fall distance to a minimum.
   C. Reduce the rate of discharge of the aggregate.
   D. An equivalent alternate measure.

* “An As Needed Basis” means the frequency or quantity of application necessary to minimize visible particulate matter emissions.
Attachment B

Federally Enforceable State Operating Permit (FESOP) No: F097-41186-00735

[Downloaded from the eCFR on May 13, 2013]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

§ 60.90  Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.


§ 60.91  Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) Hot mix asphalt facility means any facility, as described in § 60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

§ 60.92  Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

§ 60.93  Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).
(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.92 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]
§ 60.670 Applicability and designation of affected facility.

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in § 60.671).

(b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in § 60.671, of 23 megagrams per hour (25 tons per hour) or less;

(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in § 60.671, of 136 megagrams per hour (150 tons per hour) or less; and

(3) Common clay plants and pumice plants with capacities, as defined in § 60.671, of 9 megagrams per hour (10 tons per hour) or less.

(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in § 60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§ 60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in § 60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§ 60.672, 60.674 and 60.675.
(e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

§ 60.671 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more affected facilities to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crush or Crushing means to reduce the size of nonmetallic mineral material by means of physical impaction of the crusher or grinding mill upon the material.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: Jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in § 60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: Hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.
Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

1. Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

2. Sand and Gravel.

3. Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

4. Rock Salt.

5. Gypsum (natural or synthetic).

6. Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.

7. Pumice.

8. Gilsonite.


10. Boron, including Borax, Kernite, and Colemanite.


12. Fluorospar.

13. Feldspar.


15. Perlite.

16. Vermiculite.

17. Mica.

18. Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in § 60.670 (b) and (c).

Portable plant means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Production line means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.
Saturated material means, for purposes of this subpart, mineral material with sufficient surface moisture such that particulate matter emissions are not generated from processing of the material through screening operations, bucket elevators and belt conveyors. Material that is wetted solely by wet suppression systems is not considered to be “saturated” for purposes of this definition.

Screening operation means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens). Grizzly feeders associated with truck dumping and static (non-moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations.

Seasonal shut down means shut down of an affected facility for a period of at least 45 consecutive days due to weather or seasonal market conditions.

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

Stack emission means the particulate matter that is released to the atmosphere from a capture system.

Storage bin means a facility for storage (including surge bins) of nonmetallic minerals prior to further processing or loading.

Transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: Trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

Wet material processing operation(s) means any of the following:

(1) Wet screening operations (as defined in this section) and subsequent screening operations, bucket elevators and belt conveyors in the production line that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line; or

(2) Screening operations, bucket elevators and belt conveyors in the production line downstream of wet mining operations (as defined in this section) that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line.

Wet mining operation means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

Wet screening operation means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

§ 60.672 Standard for particulate matter (PM).

(a) Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under § 60.8. The requirements in Table 2 of this subpart apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.
(b) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under § 60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

(c) [Reserved]

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

1. Fugitive emissions from the building openings (except for vents as defined in § 60.671) must not exceed 7 percent opacity; and

2. Vents (as defined in § 60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.

(f) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

§ 60.673 Reconstruction.

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under § 60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under § 60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§ 60.674 Monitoring of operations.

(a) The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

1. A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals ±1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

2. A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expeditiously as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under § 60.676(b).
(1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:

(i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and § 60.676(b), and

(ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under § 60.11 of this part and § 60.675 of this subpart.

(2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under § 60.676(b) must specify the control mechanism being used instead of the water sprays.

c) Except as specified in paragraph (d) or (e) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A-7). The Method 22 (40 CFR part 60, Appendix A-7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, Appendix A-7) test, including the date and any corrective actions taken, in the logbook required under § 60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to § 60.675(b) simultaneously with a Method 22 (40 CFR part 60, Appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.

(d) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (d)(1)(vi) of this section.
(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (d)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator of the affected facility must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (d)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (d)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

(e) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility that is subject to the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) may follow the continuous compliance requirements in row 1 items (i) through (iii) of Table 6 to Subpart AAAAA of 40 CFR part 63.
§ 60.675 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A-1 through A-7 of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the PM standards in § 60.672(a) as follows:

(1) Except as specified in paragraphs (e)(3) and (4) of this section, Method 5 of Appendix A-3 of this part or Method 17 of Appendix A-6 of this part shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, Appendix A-3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 of Appendix A-4 of this part and the procedures in § 60.11 shall be used to determine opacity.

(c)(1) In determining compliance with the particulate matter standards in § 60.672(b) or § 60.672(e)(1), the owner or operator shall use Method 9 of Appendix A-4 of this part and the procedures in § 60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of this part, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2)(i) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under § 60.672(f) of this subpart, using Method 9 (40 CFR part 60, Appendix A-4), the duration of the Method 9 (40 CFR part 60, Appendix A-4) observations shall be 1 hour (ten 6-minute averages).

(ii) The duration of the Method 9 (40 CFR part 60, Appendix A-4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.

(3) When determining compliance with the fugitive emissions standard for any affected facility described under § 60.672(b) or § 60.672(e)(1) of this subpart, the duration of the Method 9 (40 CFR part 60, Appendix A-4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.

(d) To demonstrate compliance with the fugitive emission limits for buildings specified in § 60.672(e)(1), the owner or operator must complete the testing specified in paragraph (d)(1) and (2) of this section. Performance tests must be conducted while all affected facilities inside the building are operating.

(1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, Appendix A-4) performance test according to this section and § 60.11.

(2) If the building encloses only affected facilities that commenced construction, modification, or reconstruction before April 22, 2008, and the owner or operator has previously conducted an initial Method 22 (40 CFR part 60, Appendix A-7) performance test showing zero visible emissions, then the owner or operator has demonstrated compliance with
the opacity limit in § 60.672(e)(1). If the owner or operator has not conducted an initial performance test for the building before April 22, 2008, then the owner or operator must conduct an initial Method 9 (40 CFR part 60, Appendix A-4) performance test according to this section and § 60.11 to show compliance with the opacity limit in § 60.672(e)(1).

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

2. A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:

(i) No more than three emission points may be read concurrently.

(ii) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

3. Method 5I of Appendix A-3 of this part may be used to determine the PM concentration as an alternative to the methods specified in paragraph (b)(1) of this section. Method 5I (40 CFR part 60, Appendix A-3) may be useful for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

4. In some cases, velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 of Appendix A-1 of this part \[i.e., velocity head <1.3 \text{ mm H}_2\text{O (0.05 in. H}_2\text{O)}\] and referred to in EPA Method 5 of Appendix A-3 of this part. For these conditions, the owner or operator may determine the average gas flow rate produced by the power fans \(\text{(e.g., from vendor-supplied fan curves)}\) to the building vent. The owner or operator may calculate the average gas velocity at the building vent measurement site using Equation 1 of this section and use this average velocity in determining and maintaining isokinetic sampling rates.

\[
V_e = \frac{Q_f}{A_e} \tag{E. q. 1}
\]

Where:

\(V_e\) = average building vent velocity (feet per minute);

\(Q_f\) = average fan flow rate (cubic feet per minute); and

\(A_e\) = area of building vent and measurement location (square feet).

(f) To comply with § 60.676(d), the owner or operator shall record the measurements as required in § 60.676(c) using the monitoring devices in § 60.674(a)(1) and (2) during each particulate matter run and shall determine the averages.
(g) For performance tests involving only Method 9 (40 CFR part 60 Appendix A-4) testing, the owner or operator may reduce the 30-day advance notification of performance test in § 60.7(a)(6) and 60.8(d) to a 7-day advance notification.

(h) [Reserved]

(i) If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in § 60.671 of this subpart) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

§ 60.676 Reporting and recordkeeping.

(a) Each owner or operator seeking to comply with § 60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(b)(1) Owners or operators of affected facilities (as defined in §§ 60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under § 60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.

(2) For each bag leak detection system installed and operated according to § 60.674(d), the owner or operator must keep the records specified in paragraphs (b)(2)(i) through (iii) of this section.

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

(3) The owner or operator of each affected facility demonstrating compliance according to § 60.674(e) by following the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) must maintain records of visible emissions observations required by § 63.7132(a)(3) and (b) of 40 CFR part 63, subpart AAAAA.

(c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

(d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss and liquid flow rate decrease by more than 30 percent from the average determined during the most recent performance test.

(e) The reports required under paragraph (d) of this section shall be postmarked within 30 days following end of the second and fourth calendar quarters.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in § 60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A-4) to demonstrate compliance with § 60.672(b), (e) and (f).

(g) The owner or operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in § 60.672(b) and the emission test requirements of § 60.11.

(h) The subpart A requirement under § 60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

(j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

(k) Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region or the State which has been delegated authority according to § 60.4(b).
Table 1 to Subpart OOO of Part 60—Exceptions to Applicability of Subpart A to Subpart OOO

<table>
<thead>
<tr>
<th>Subpart A reference</th>
<th>Applies to subpart OOO</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>60.4, Address</td>
<td>Yes</td>
<td>Except in § 60.4(a) and (b) submittals need not be submitted to both the EPA Region and delegated State authority (§ 60.676(k)).</td>
</tr>
<tr>
<td>60.7, Notification and recordkeeping</td>
<td>Yes</td>
<td>Except in (a)(1) notification of the date construction or reconstruction commenced (§ 60.676(h)).</td>
</tr>
<tr>
<td>60.8, Performance tests</td>
<td>Yes</td>
<td>Except in (d) performance tests involving only Method 9 (40 CFR part 60, Appendix A-4) require a 7-day advance notification instead of 30 days (§ 60.675(g)).</td>
</tr>
<tr>
<td>60.11, Compliance with standards and maintenance requirements</td>
<td>Yes</td>
<td>Except in (b) under certain conditions (§§ 60.675(c)), Method 9 (40 CFR part 60, Appendix A-4) observation is reduced from 3 hours to 30 minutes for fugitive emissions.</td>
</tr>
<tr>
<td>60.18, General control device</td>
<td>No</td>
<td>Flares will not be used to comply with the emission limits.</td>
</tr>
</tbody>
</table>

Table 2 to Subpart OOO of Part 60—Stack Emission Limits for Affected Facilities With Capture Systems

<table>
<thead>
<tr>
<th>For ** * *</th>
<th>The owner or operator must meet a PM limit of ** * *</th>
<th>And the owner or operator must meet an opacity limit of ** * *</th>
<th>The owner or operator must demonstrate compliance with these limits by conducting ** * *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affected facilities (as defined in §§ 60.670 and 60.671 that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008</td>
<td>0.05 g/dscm (0.022 gr/dscf) a</td>
<td>7 percent for dry control devices b</td>
<td>An initial performance test according to § 60.8 of this part and § 60.675 of this subpart; and Monitoring of wet scrubber parameters according to § 60.674(a) and § 60.676(c), (d), and (e).</td>
</tr>
<tr>
<td>Affected facilities (as defined in §§ 60.670 and 60.671 that commence construction, modification, or reconstruction on or after April 22, 2008</td>
<td>0.032 g/dscm (0.014 gr/dscf) a</td>
<td>Not applicable (except for individual enclosed storage bins) 7 percent for dry control devices on individual enclosed storage bins</td>
<td>An initial performance test according to § 60.8 of this part and § 60.675 of this subpart; and Monitoring of wet scrubber parameters according to § 60.674(a) and § 60.676(c), (d), and (e); and Monitoring of baghouses according to § 60.674(c), (d), or (e) and § 60.676(b).</td>
</tr>
</tbody>
</table>

a Exceptions to the PM limit apply for individual enclosed storage bins and other equipment. See § 60.672(d) through (f).

b The stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.
## Table 3 to Subpart OOO of Part 60—Fugitive Emission Limits

<table>
<thead>
<tr>
<th>For ** * *</th>
<th>The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§ 60.670 and 60.671) ** * *</th>
<th>The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used ** * *</th>
<th>The owner or operator must demonstrate compliance with these limits by conducting ** * *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affected facilities (as defined in §§ 60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008</td>
<td>10 percent opacity</td>
<td>15 percent opacity</td>
<td>An initial performance test according to § 60.11 of this part and § 60.675 of this subpart.</td>
</tr>
<tr>
<td>Affected facilities (as defined in §§ 60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008</td>
<td>7 percent opacity</td>
<td>12 percent opacity</td>
<td>An initial performance test according to § 60.11 of this part and § 60.675 of this subpart; and Periodic inspections of water sprays according to § 60.674(b) and § 60.676(b); and A repeat performance test according to § 60.11 of this part and § 60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in § 60.674(b) and § 60.676(b) are exempt from this 5-year repeat testing requirement.</td>
</tr>
</tbody>
</table>
Indiana Department of Environmental Management  
Office of Air Quality

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP) Renewal with New Source Review (NSR)

Source Description and Location

<table>
<thead>
<tr>
<th>Source Name:</th>
<th>Harding Materials, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Location:</td>
<td>1100 South Tibbs Avenue, Indianapolis, Indiana 46241</td>
</tr>
<tr>
<td>County:</td>
<td>Marion County (Wayne Township)</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>2951 (Asphalt Paving Mixtures and Blocks)</td>
</tr>
<tr>
<td>Permit Renewal No.:</td>
<td>F097-41186-00735</td>
</tr>
<tr>
<td>Permit Reviewer:</td>
<td>Mehul Sura</td>
</tr>
</tbody>
</table>

On March 12, 2019, Harding Materials, Inc. submitted an application to the Office of Air Quality (OAQ) requesting to renew its operating permit. OAQ has reviewed the operating permit renewal application from Harding Materials, Inc. relating to the operation of a stationary hot-mix asphalt plant. Harding Materials, Inc. was issued its FESOP (F097-34900-00735) on December 10, 2014.

Existing Approvals

The source was issued FESOP Renewal No. on December 10, 2014. The source has since received the following approval:

(a) Administrative Amendment No. 097-35845-00735, issued on June 11, 2015

(b) Administrative Amendment No. 097-34900-00735, issued on December 7, 2014

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

(a) One (1) drum-mix, hot-mix asphalt plant, identified as U1, approved in 2014 for construction, with a maximum throughput capacity of 400 tons of raw material per hour, processing reclaimed asphalt pavement (RAP) in the aggregate mix, equipped with one (1) 128 MMBtu per hour natural gas-fired dryer burner, identified as U2, using one (1) cyclone, identified as HC1, and one (1) jet-pulse baghouse, identified as BH1, in series for particulate control, and exhausting through Stack 1.

Under NSPS, Subpart I, this is considered an affected facility.

(b) Material storage, handling, and conveying operations, approved in 2014 for construction, consisting of the following:

(1) One (1) aggregate storage area, including:

(A) Sand storage pile(s), total capacity 0.80 acres;

(B) Limestone storage pile(s), total capacity 1.3 acres;

(C) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 1.4
acres; and

(D) Gravel storage pile(s), total capacity 1.2 acres

(2) Material screening and conveying, identified as MSC

(3) Three (3) asphalt product storage silos, identified as S1, S2, and S3, with a maximum storage capacity of 200 tons each, without control, and exhausting outside;

Under NSPS, Subpart I, this is considered an affected facility.

**Emission Units and Pollution Control Equipment Removed From the Source**

The source has removed the following emission units:

(a) Intermittent reclaimed asphalt pavement (RAP) crushing operations, including one (1) portable RAP crusher, and any associated RAP screening, conveying, and handling facilities.

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

(b) One (1) gasoline fuel transfer and dispensing operation, approved in 2014 for construction, handling a maximum of 150 gallons per day, 3,900 gallons per month and 46,800 gallons per year, and including one (1) 1,000 gallon gasoline storage tank, identified as T3;

Under 40 CFR 60, Subpart CCCCCC, this unit is considered an affected facility.

**Insignificant Activities**

The source also consists of the following insignificant activities:

(a) One (1) natural gas-fired hot oil heater, identified as U3, approved in 2014 for construction, with a maximum rated heat input capacity of 1.0 MMBtu per hour, uncontrolled and exhausting to the atmosphere.

(b) Two (2) vertical liquid asphalt storage tanks, having a maximum storage capacity of 25,000 gallons each.

(c) Two (2) Petroleum fuel, other than gasoline, dispensing facilities, dispensing three thousand five hundred (3,500) gallons per day or less and including:

(1) One (1) 1,000 gallon off-road diesel storage tank, identified as T1, approved in 2014 for construction; and

(1) One (1) 5,000 gallon on-road diesel storage tank, identified as T2, approved in 2014 for construction.

(d) Activities related to routine fabrication, maintenance, and repair of buildings, structures, equipment, or vehicles at the source where air emissions from those activities would not be associated with any commercial production process, including brazing, soldering, or welding operations and associated equipment.

(e) Cleaners and solvents characterized as follows:

(1) having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 °C (100 °F) or;
(2) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20 °C (68 °F); the use of which for all cleaners and solvents combined does not exceed one hundred forty-five (145) gallons per twelve (12) months.

(f) Portable containers used for the collection, storage, or disposal of materials provided the container capacity is equal to or less than forty-six hundredths (0.46) cubic meters (121.5 gallons) and the container is closed, except when the material is added or removed.

(g) Paved and unpaved roads with limited public access.

**Description of Proposed Revision at an Existing Source**

The Office of Air Quality (OAQ) has reviewed a modification application, submitted on March 12, 2019, relating to a modification of an existing stationary hot-mix asphalt plant. The following is a list of the new emission units and pollution control devices:

(a) One (1) Recycled Asphalt Product crusher, identified as RAP crusher, constructed in 2019, with maximum throughput rate 300 tons per hour, without control, consisting of:

(i) One (1) crusher
(ii) One (1) screen
(iii) Four (4) open conveyors

(b) Seven (7) cold feed bins, identified as B1 through B7, constructed in 2016, each with a maximum storage capacity of 200 tons, without control, and exhausting outside.

In addition, the following equipment have been added to the facility which are of the same type as existing permitted emission units at the facility:

(a) Two (2) asphalt product storage silos, identified as S4 and S5, constructed in 2017, each with a maximum storage capacity of 200 tons, without control, and exhausting outside.

**Enforcement Issue**

IDEM is aware that the seven (7) cold feed bins (B1 through B7) and RAP crusher equipment have been constructed and/or operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit and/or operating rules.

**Emission Calculations**

See Appendix A of this Technical Support Document for detailed emission calculations.

**County Attainment Status**

The source is located in Marion County.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>Non-attainment effective October 4, 2013, for the Center Township, Perry Township, and Wayne Township. Better than national standards for the remainder of the county.</td>
</tr>
<tr>
<td>CO</td>
<td>Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11th Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.</td>
</tr>
<tr>
<td>O₃</td>
<td>Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.¹</td>
</tr>
</tbody>
</table>
(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Marion County (Wayne Township) has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5
Marion County has been classified as attainment for PM2.5. Therefore, direct PM2.5, SO2, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) SO2
U.S. EPA, in the Federal Register Notice 78 FR 47191 dated August 5, 2013, designated Marion County (Wayne Township), as nonattainment for SO2. Therefore, SO2 emissions were reviewed pursuant to the requirements of Emission Offset, 326 IAC 2-3.

(d) Other Criteria Pollutants
Marion County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B). However, there is an applicable New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants that was in effect on August 7, 1980 (NSPS, 40 CFR 60, Subpart I); therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

On June 23, 2014, in the case of Utility Air Regulatory Group v. EPA, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court’s decision. U.S. EPA’s guidance states that U.S. EPA will no longer require PSD or Title V permits for sources “previously classified as ‘Major’ based solely on greenhouse gas emissions.”

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC...
2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

### Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

<table>
<thead>
<tr>
<th>Unrestricted Potential Emissions (ton/year)</th>
<th>PM(^1)</th>
<th>PM(_{10})(^1)</th>
<th>PM(_{2.5})(^{1,2})</th>
<th>SO(_2)</th>
<th>NO(_X)</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Single HAP(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PTE of Entire Source Including Fugitives(^*)</td>
<td>49,280</td>
<td>11,460</td>
<td>2,670</td>
<td>5.96</td>
<td>106.96</td>
<td>86.10</td>
<td>233.18</td>
<td>9.89</td>
<td>5.59 (formaldehyde)</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
<td>NA</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>NA</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Emission Offset Major Source Thresholds</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>100</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

\(^1\) Under the Part 70 Permit program (40 CFR 70), PM\(_{10}\) and PM\(_{2.5}\), not particulate matter (PM), are each considered as a "regulated air pollutant."

\(^2\) PM\(_{2.5}\) listed is direct PM\(_{2.5}\).

\(^3\) Single highest source-wide HAP

*Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(30)) of PM\(_{10}\), PM\(_{2.5}\), NO\(_X\), and CO, each, is equal to or greater than 100 tons per year. However, the Permittee has agreed to limit the source’s PM, PM\(_{10}\), PM\(_{2.5}\), NO\(_X\), and CO emissions to less than Title V major source thresholds. Therefore, the source will be issued a FESOP Renewal.

(b) The potential to emit (as defined in 326 IAC 2-7-1(30)) of all other criteria pollutants are less than 100 tons per year.

(c) The potential to emit (as defined in 326 IAC 2-7-1(30)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(30)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

### Permit Level Determination – FESOP Significant Permit Revision

Pursuant to 326 IAC 2-1.1-1(12), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-8-11.1 (Permit Revisions). This table reflects the PTE before controls of the proposed revision. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.
Appendix A of this TSD reflects the detailed potential emissions of the proposed revision.

Pursuant to 326 IAC 2-8-11.1(f)(1)(E), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision involves the construction of new emission units, where the potential to emit of PM and VOC greater than or equal to twenty-five (25) tons per year, each.

In lieu of a Significant Permit Revision, a FESOP Renewal with New Source Review will be issued.

[Note: The two (2) asphalt product storage silos, identified as S4 and S5 are units of the same type as permitted emission units at the source. Therefore, these units qualify for a FESOP administrative amendment under 326 IAC 2-8-10(a)(10)]

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this FESOP renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$$^1$</th>
<th>SO$_2$</th>
<th>NO$_x$</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAP crusher Equipment</td>
<td>43.89</td>
<td>16.03</td>
<td>16.03</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>seven (7) cold feed bins (B1 through B7)</td>
<td>3.77</td>
<td>1.78</td>
<td>0.27</td>
<td>-</td>
<td>-</td>
<td>30.0</td>
<td>-</td>
<td>0.50</td>
</tr>
<tr>
<td>Total PTE Before Controls of the New Emission Units:</td>
<td>47.66</td>
<td>17.82</td>
<td>16.30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

$^1$PM$_{2.5}$ listed is direct PM$_{2.5}$.

Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

The source opted to take limit(s) in order to render the requirements of 326 IAC 2-2 (Prevention of
Significant Deterioration (PSD)) not applicable to this source and to render minor source under 326 IAC 2-7 (Part 70). See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (PSD) for more information regarding the limit(s).

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing minor Emission Offset stationary source will continue to be minor under 326 IAC 2-3 because the potential to emit of all nonattainment regulated pollutant(s), SO2 from the entire source will continue to be less than the Emission Offset major source threshold level. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

(c) This source is not a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

---

**Federal Rule Applicability**

Federal rule applicability for this source has been reviewed as follows:

**New Source Performance Standards (NSPS):**

(a) Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

This asphalt plant is subject to the NSPS, Subpart I and 326 IAC 12, because this asphalt plant was constructed after 1973.

The emission units subject to this rule include the following:

(a) drum-mix hot-mix asphalt plant (U1)

(b) Material storage, handling, and conveying operations, approved in 2014 for construction, consisting of the following:

(1) One (1) aggregate storage area, including:

(A) Sand storage pile(s), total capacity 0.80 acres;

(B) Limestone storage pile(s), total capacity 1.3 acres;

(C) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 1.4 acres; and

(D) Gravel storage pile(s), total capacity 1.2 acres

(2) Material screening and conveying (MSC)

(3) Three (3) asphalt product storage silos (S1, S2, and S3)

(b) Two (2) asphalt product storage silos (S4 and S5)

(c) Seven (7) cold feed bins (B1 through B7)

These facilities are subject to the following portions of Subpart I.
(a) 40 CFR 60.90
(b) 40 CFR 60.91
(c) 40 CFR 60.92
(d) 40 CFR 60.93

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to these facilities except as otherwise specified in 40 CFR 60, Subpart I.

(b) Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

None of the diesel storage tanks at this source is subject to the NSPS, Subpart Kb because the storage capacity of each of these tanks is less than the minimum storage capacity thresholds of this NSPS.

(c) Subpart UU—Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture

The requirements of this NSPS, Subpart UU applies to asphalt processing plant and asphalt roofing products. This source does not blow asphalt for use in the manufacture of asphalt products, therefore, this source is not an asphalt processing plant and this source does not produces asphalt roofing products (shingles, roll roofing, siding, or saturated felt), therefore, this source is not an asphalt roofing plant. As a result, this source is not subject to the requirements of this NSPS.

(d) Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants

RAP crusher equipment is subject to the requirements of this NSPS, Subpart OOO, which is incorporated by reference as 326 IAC 12, because this equipment is used to crush nonmetallic mineral. Other mineral processing equipment at this source are subject to the requirements of NSPS, Subpart I. Therefore, the equipment that are subject to Subpart I are not subject to the requirements ofNSPS, Subpart OOO pursuant to 40 CFR 60.670(b).

The RAP crusher equipment is subject to the following portions of Subpart OOO.

(1) 40 CFR 60.670
(2) 40 CFR 60.671
(3) 40 CFR 60.672
(4) 40 CFR 60.673
(5) 40 CFR 60.674
(6) 40 CFR 60.675
(7) 40 CFR 60.676
(8) Tables 1 - 3

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to these facilities except as otherwise specified in 40 CFR 60, Subpart OOO.

(e) Subpart UUU—Standards of Performance for Calciners and Dryers in Mineral Industries

The source does not process or produce any of the following minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite. Therefore, this source is not subject to the requirements of this NSPS, Subpart UUU.

(f) There are no other NSPS (40 CFR Part 60) and 326 IAC 12 included in the permit.
National Emission Standards for Hazardous Air Pollutants (NESHAP):

(a) Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

This source is not subject to the requirements of NESHAP, Subpart DDDDD because this source is not a major source of HAPs.

(b) Subpart LLLLL—National Emission Standards for Hazardous Air Pollutants: Asphalt Processing and Asphalt Roofing Manufacturing

This source is not subject to the requirements of NESHAP, Subpart LLLLL because this source is not a major source of HAPs.

(c) Subpart AAAAAAA—National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing

The requirements of this NESHAP, Subpart AAAAAAA applies to asphalt processing plant and asphalt roofing products. This source does not blow asphalt, therefore, this source is not an asphalt processing plant and this source does not produce asphalt roofing products, therefore, this source is not an asphalt roofing plant. As a result, this source is not subject to the requirements of NESHAP, Subpart AAAAAAA.

(d) There are no NESHAPs (40 CFR Part 63, 326 IAC 14, and 326 IAC 20) included in the permit.

Compliance Assurance Monitoring (CAM):

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability - Entire Source

State rule applicability for this source has been reviewed as follows:

326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset) and 326 IAC 2-8-4 (FESOP)
PSD and Emission Offset applicability are discussed under the Potential to Emit After Issuance section of this document.

PSD Minor Source Limits
In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following:

(a) The amount of asphalt processed shall not exceed 820,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Natural gas usage in the dryer/mixer shall not exceed 1,037 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) PM emissions from the dryer/mixer shall not exceed 0.393 pounds per ton of asphalt processed.

(d) The PM10 emissions from the dryer/mixer shall not exceed 0.165 pounds per ton of asphalt processed.

(e) The PM2.5 emissions from the dryer/mixer shall not exceed 0.182 pounds per ton of asphalt processed.
(f) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.

(g) The Permittee shall control PM10 and PM2.5 emissions from the paved and unpaved roads according to the fugitive dust plan, included as Attachment A to the permit.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, NOx and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, NOx and CO to less than 100 tons per 12 consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable.

The cyclone and baghouse (BH1) shall be in operation and control PM, PM10 and PM2.5 emissions from the dryer/mixer (U1/U2) at all times the dryer/mixer (U1/U2) is in operation, in order to comply with the above PM, PM10 and PM2.5 limits.

Note 1: The asphalt production limit has been revised to account for the PM, PM10 and PM2.5 emissions from the new RAP crusher equipment.

Note 2: The description of the hot-mix asphalt plant has been revised to specify that this source does not produce cold mix asphalt and does not process or use slag and asphalt shingles. Therefore, Slag Usage, Cold-Mix Asphalt Usage and Asphalt Shingle Usage Limitations have not been included in the permit.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of this source will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)
This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70); it is not located in Lake, Porter, or LaPorte County, and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.

326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(2).

326 IAC 6-4 (Fugitive Dust Emissions Limitations)
The source is subject to the requirements of 326 IAC 6-4, because the source has the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This source was constructed after December 13, 1985 and has potential fugitive particulate emissions of twenty-five (25) tons per year or more. Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan that is included as Attachment A to the permit.

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
This source (located in Marion County) is located in one of the counties listed in 326 IAC 6.5, but is not one of the sources specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10. The source-wide PTE of PM is 10 tons per year or more. Therefore, this source is subject to the requirements of 326 IAC 6.5-1-2 because the source-wide actual emissions of PM can be 10 tons per year or more.
Pursuant to 326 IAC 6.5-1-2(a), particulate matter (PM) emissions from the dryer/mixer (U1/U2), material screening and conveying operations (MSC), storage silos (S1 through S5), bins (B1 through B7), and RAP crusher equipment shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

The cyclone and baghouse (BH1) shall be in operation and control PM, PM10 and PM2.5 emissions from the dryer/mixer (U1/U2) at all times the dryer/mixer (U1/U2) is in operation, in order to comply with the above PM limit for dryer/mixer (U1/U2).

326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(d), indirect heating facilities which received permit to construct after September 21, 1983 are subject to the requirements of 326 IAC 6-2-4.

The particulate matter emissions (Pt) shall be limited by the following equation:

\[ Pt = \frac{1.09}{Q^{0.26}} \]

Where:

\[ Pt \] = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).

\[ Q \] = Total source maximum operating capacity rating in MMBtu/hr heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility’s permit application, except when some lower capacity is contained in the facility’s operation permit; in which case, the capacity specified in the operation.

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 MMBtu/hr, Pt shall not exceed 0.6 lb/MMBtu.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Construction Date (Removal Date)</th>
<th>Operating Capacity (MMBtu/hr)</th>
<th>Q (MMBtu/hr)</th>
<th>Calculated Pt (lb/MMBtu)</th>
<th>Particulate Limitation, (Pt) (lb/MMBtu)</th>
<th>PM PTE based on AP-42 (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units Operating Prior to 9/21/1983</td>
<td>1986</td>
<td>1.0</td>
<td>1.0</td>
<td>1.22</td>
<td>1.09</td>
<td>0.002 for natural gas</td>
</tr>
<tr>
<td>hot oil heater U3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where: \( Q = \) includes the capacity (MMBtu/hr) of the new unit(s) and the capacities for those unit(s) which were in operation at the source at the time the new unit(s) was constructed.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
All of the emission units at the source have SO2 PTE less than 25 tons/year and 10 pounds/hour. Therefore, the source is not subject to the requirements of this rule.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The drum-mix hot-mix asphalt plant was constructed after January 1, 1980, and its unlimited VOC
potential emissions are equal to or greater than twenty-five (25) tons per year and this facility/unit is not regulated by other rules in 326 IAC 8. The source has opted to limit the potential to emit VOC from drum-mix hot-mix asphalt plant to less than twenty-five (25) tons per twelve (12) consecutive month period in order to render the requirements of 326 IAC 8-1-6 not applicable.

In order to render the requirements of 326 IAC 8-1-6 not applicable to drum-mix hot-mix asphalt plant, Permittee shall comply with the following:

(a) The amount of asphalt processed shall not exceed 820,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The VOC emissions from the dryer/mixer (U1/U2) shall not exceed 0.032 pounds per ton of asphalt processed.

Compliance with these limits shall limit the VOC emissions from the dryer/mixer (U1/U2) to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable to the drum-mix hot-mix asphalt plant.

326 IAC 9-1 (Carbon Monoxide Emission Limits)
The requirements of 326 IAC 9-1 do not apply to this source, because this source does not operate a catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)
The requirements of 326 IAC 10-3 do not apply to this source, since this source does not operate blast furnace gas-fired boiler, a Portland cement kiln, or a facility specifically listed under 326 IAC 10-3-1(a)(2).

### Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to assure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source’s failure to take the appropriate corrective actions within a specific time period.

(a) The Compliance Determination Requirements applicable to this source are as follows:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control Device</th>
<th>Timeframe for Testing</th>
<th>Most Recent Test Date</th>
<th>Pollutant/Parameter</th>
<th>Frequency of Testing</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>dryer/mixer (U1/U2)</td>
<td>baghouse</td>
<td>no later than five (5) years after the most recent testing</td>
<td>10/30/2015</td>
<td>PM and Opacity</td>
<td>every five (5) years</td>
<td>PSD Minor limit and NSPS, Subpart I</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM10 and PM2.5</td>
<td></td>
<td>326 IAC 2-8-4 and 326 IAC 2-2</td>
</tr>
</tbody>
</table>

(b) The Compliance Monitoring Requirements applicable to this source are as follows:
<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control Device</th>
<th>Type of Parametric Monitoring</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>dryer/mixer (U1/U2)</td>
<td>Cyclone and baghouse (BH1)</td>
<td>Visible Emission Notations</td>
<td>Daily</td>
</tr>
</tbody>
</table>

This monitoring condition is necessary because the cyclone and baghouse (BH1) for the dryer/mixer (U1/U2) must operate properly to assure compliance with 326 IAC 6.5 (Particulate Emissions Limitations Except Lake County), 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP).

**IDEM Contact**

(a) If you have any questions regarding this permit, please contact Mehul Sura, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-6868 or toll free at 1-800-451-6027, and ask for Mehul Sura or (317) 233-6868.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm; and the Citizens’ Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.
### Modification Summary

**Company Name:** Harding Materials, Inc. 5  
**Source Address:** 1100 South Tibbs Avenue, Indianapolis, IN 46241  
**Permit Number:** F097-41186-00735  
**Reviewer:** Mehul Sura

<table>
<thead>
<tr>
<th>Unlimited/Uncontrolled Potential to Emit (tons/year)</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAP Crusher equipment</td>
<td>43.89</td>
<td>16.03</td>
<td>16.03</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>two (2) asphalt product storage silos (S4 and S5) and seven (7) cold feed bins (B1 through B7)</td>
<td>3.77</td>
<td>1.78</td>
<td>0.27</td>
<td>-</td>
<td>-</td>
<td>30.0</td>
<td>-</td>
<td>0.50</td>
</tr>
<tr>
<td>Total</td>
<td>47.66</td>
<td>17.82</td>
<td>16.30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
# RAP Crusher Equipment

**Company Name:** Harding Materials, Inc. 5  
**Source Address:** 1100 South Tibbs Avenue, Indianapolis, IN 46241  
**Permit Number:** F097-41186-00735  
**Reviewer:** Mehul Sura  

## Potential Emissions (tons/yr)

<table>
<thead>
<tr>
<th>RAP Crusher Equipment</th>
<th>Throughput (tons/hr)</th>
<th>PM lb/ton</th>
<th>PM010 lb/ton</th>
<th>PM025 lb/ton</th>
<th>PM (tons/year)</th>
<th>PM10 (tons/year)</th>
<th>PM2.5 (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary Crushing</td>
<td>300</td>
<td>0.0024</td>
<td>0.0024</td>
<td>3.0596</td>
<td>3.1536</td>
<td>3.1536</td>
<td></td>
</tr>
<tr>
<td>Screening</td>
<td>300</td>
<td>0.025</td>
<td>0.0087</td>
<td>32.85</td>
<td>11.4318</td>
<td>11.4318</td>
<td></td>
</tr>
<tr>
<td>Conveyor Transfer Point</td>
<td>300</td>
<td>0.003</td>
<td>0.0011</td>
<td>3.942</td>
<td>1.4454</td>
<td>1.4454</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43.9</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>16.0</strong></td>
<td><strong>16.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Methodology**  
Emission factors are from ap42 Table 11.19.2-2.  
Potential Emissions (tons/yr) = Throughput (tons/hr) x emission factor (lb/ton) x [8760 (hrs/yr) / 2000 (lbs/ton)]  
PM10=PM2.5
## Appendix A.1: Unlimited Emissions Calculations

### Entire Source - Drum Mix

**Company Name:** Harding Materials, Inc. 5  
**Source Address:** 1100 South Tibbs Avenue, Indianapolis, IN 46241  
**Permit Number:** F097-41186-00735  
**Reviewer:** Mehul Sura

### Asphalt Plant Maximum Capacity - Drum Mix

<table>
<thead>
<tr>
<th>Process Description</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unlimited/Uncontrolled Potential to Emit</strong></td>
<td>49,280</td>
<td>11,460</td>
<td>2,670</td>
<td>5.96</td>
<td>106.96</td>
<td>56.10</td>
<td>233.18</td>
<td>9.89</td>
<td>5.59 (formaldehyde)</td>
</tr>
<tr>
<td><strong>Fugitive Emissions</strong></td>
<td>49,100</td>
<td>11,404</td>
<td>2,644</td>
<td>5.96</td>
<td>106.96</td>
<td>56.09</td>
<td>228.13</td>
<td>9.39</td>
<td>5.44 (formaldehyde)</td>
</tr>
<tr>
<td><strong>PM</strong></td>
<td>400</td>
<td>1,000</td>
<td>1,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>PM10</strong></td>
<td>3,504</td>
<td>9,012</td>
<td>9,012</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>PM2.5</strong></td>
<td>1,121</td>
<td>2,799</td>
<td>2,799</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>SO2</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>NOx</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>VOC</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>CO</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Totals Unlimited/Uncontrolled PTE:** 49,280 | 11,460 | 2,670 | 5.96  | 106.96 | 56.10 | 233.18 | 9.89 | 5.59 (formaldehyde)
## Unlimited Emissions Calculations

### Company Name: Harding Materials, Inc. 5
**Source Address:** 1190 South Titans Avenue, Indianapolis, IN 46241
**Permit Number:** F097-41186-00735
**Reviewer:** Mehul Sura

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

### Maximum Capacity

<table>
<thead>
<tr>
<th>Maximum Fuel Input Rate (MMBtu/hr)</th>
<th>Natural Gas Usage (MMCF/yr)</th>
<th>No. 2 Fuel Oil Usage (gal/yr)</th>
<th>No. 4 Fuel Oil Usage (gal/yr)</th>
<th>Propane Usage (gal/yr)</th>
<th>Butane Usage (gal/yr)</th>
<th>Used/Waste Oil Usage (gal/yr)</th>
<th>Natural Gas (tons/yr)</th>
<th>No. 2 Fuel Oil (tons/yr)</th>
<th>No. 4 Fuel Oil (tons/yr)</th>
<th>Propane (tons/yr)</th>
<th>Butane (tons/yr)</th>
<th>Used/Waste Oil (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td>1.12</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### Unlimited/Uncontrolled Emissions

#### Emission Factors (tons/yr)

- PM
- SO2
- NOx
- VOC
- HCl
- HCN
- H2S
- Acetylene
- Benzene
- Ethylbenzene
- Formaldehyde
- Hexane
- Phenol
- Toluene
- Total PAH Hap
- Polycyclic Organic Matter
- Xylene

#### Natural Gas (lb/MMCF)

- CO = Carbon Monoxide
- PM = Particulate Matter
- HCl = Hydrogen Chloride
- PM10 = Particulate Matter (<10 um)
- HCN = Hydrogen Cyanide
- SO2 = Sulfur Dioxide
- PAH = Polynuclear Hydrocarbon
- VOC = Volatile Organic Compounds
- CO = Carbon Monoxide

#### Co2

- AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
- HAP = Hazardous Air Pollutant
- AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)

### Methodology

- Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr) * [8,760 hr/yr] / [MMCF1,000 MMBtu]]
- Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr) * [8,760 hr/yr] / [gal/MMBtu]]
- Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr) * [8,760 hr/yr] / [gal/MMBtu]]
- Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr) * [8,760 hr/yr] / [gal/MMBtu]]
- Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr) / (lb/MMCF)] * [ton/2000 lbs]
- Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr) * [8,760 hr/yr] / [1 MMCF/1,000 MMBtu]]
- NOx = Nitrous Oxides
- CO = Carbon Monoxide
- VOC = Volatile Organic Compounds
- HAP = Hazardous Air Pollutant
Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer - Process Emissions

Company Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41166-00735
Reviewer: Mehul Sura

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing process.

Maximum Hourly Asphalt Production = 400 tons/hr
Maximum Annual Asphalt Production = 3,504,000 tons/yr

### Uncontrolled Emission Factors (lb/ton) vs. Unlimited/Uncontrolled Potential to Emit (tons/yr)

#### Drum-Mix Plant (dryer/mixer)

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Worse Case PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td>11.388</td>
<td>0</td>
<td>0</td>
<td>11.388</td>
</tr>
<tr>
<td>PM10*</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>2.628</td>
<td>0</td>
<td>0</td>
<td>2.628</td>
</tr>
<tr>
<td>SO2**</td>
<td>0.0034</td>
<td>0.011</td>
<td>0.058</td>
<td>6.0</td>
<td>0</td>
<td>0</td>
<td>5.96</td>
</tr>
<tr>
<td>NOx**</td>
<td>0.020</td>
<td>0.055</td>
<td>0.055</td>
<td>45.55</td>
<td>0</td>
<td>0</td>
<td>45.55</td>
</tr>
<tr>
<td>VOC**</td>
<td>0.032</td>
<td>0.032</td>
<td>0.032</td>
<td>56.1</td>
<td>0</td>
<td>0</td>
<td>56.06</td>
</tr>
<tr>
<td>CO**</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>227.8</td>
<td>0</td>
<td>0</td>
<td>227.76</td>
</tr>
</tbody>
</table>

#### Hazardous Air Pollutants

- **HCl**: 2.10E-04, 0.00E+00, 0.00E+00
- **Antimony**: 1.80E-07, 1.80E-07, 1.80E-07, 3.15E-04, 0.00E+00, 0.00E+00
- **Arsenic**: 5.60E-07, 5.60E-07, 5.60E-07, 9.81E-04, 0.00E+00, 0.00E+00
- **Beryllium**: negl, negl, negl, negl, negl, negl
- **Cadmium**: 4.10E-07, 4.10E-07, 4.10E-07, 7.18E-04, 0.00E+00, 0.00E+00
- **Chromium**: 5.50E-06, 5.50E-06, 5.50E-06, 9.64E-03, 0.00E+00, 0.00E+00
- **Cobalt**: 2.60E-08, 2.60E-08, 2.60E-08, 4.56E-05, 0.00E+00, 0.00E+00
- **Lead**: 6.20E-07, 1.50E-05, 1.50E-05, 1.09E-03, 0.00E+00, 0.00E+00
- **Manganese**: 7.70E-06, 7.70E-06, 7.70E-06, 1.35E-02, 0.00E+00, 0.00E+00
- **Mercury**: 4.40E-07, 2.50E-06, 2.50E-06, 2.20E-04, 0.00E+00, 0.00E+00
- **Nickel**: 6.30E-05, 6.30E-05, 6.30E-05, 0.11, 0.00, 0.00
- **Selenium**: 3.50E-07, 3.50E-07, 3.50E-07, 6.13E-04, 0.00E+00, 0.00E+00
- **toxic PAHs**: 4.00E-05, 4.00E-05, 4.00E-05, 6.13E-04, 0.00E+00, 0.00E+00
- **Acrylonitrile**: 2.60E-05, 0.00E+00
- **benzene**: 3.90E-04, 3.90E-04, 3.90E-04, 0.68, 0.00, 0.00
- **butadiene**: 2.40E-04, 2.40E-04, 2.40E-04, 0.42, 0.00, 0.00
- **Formaldehyde**: 3.10E-03, 3.10E-03, 3.10E-03, 5.43, 0.00, 0.00
- **Hexane**: 9.20E-04, 9.20E-04, 9.20E-04, 1.61, 0.00, 0.00
- **Methyl chloroform**: 4.80E-05, 4.80E-05, 4.80E-05, 0.08, 0.00, 0.00
- **MEK**: 2.90E-05, 0.00, 0.00
- **Propionaldehyde**: 2.60E-04, 0.00, 0.00
- **Quinone**: 1.50E-04, 2.90E-04, 2.90E-04, 0.26, 0.00, 0.00
- **total PAH Haps**: 1.90E-04, 8.80E-04, 8.80E-04, 0.33, 0.00, 0.00
- **xylene**: 2.70E-04, 2.70E-04, 2.70E-04, 0.35, 0.00, 0.00

**Methodology**

**Unlimited Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)**


Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

**SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.**

**CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, fuel oil, and waste oil to develop single CO emission factor.**

**Abbreviations**

- **PM = Particulate Matter**
- **SO2 = Sulfur Dioxide**
- **CO = Carbon Monoxide**
- **PM10 = Particulate Matter (<10 um)**
- **NOx = Nitrous Oxides**
- **HAP = Hazardous Air Pollutant**
- **PM2.5 = Particulate Matter (< 2.5 um)**
- **VOC = Volatile Organic Compounds**
- **HCl = Hydrogen Chloride**
- **MEK = Methyl ethyl ketone**
- **PAH = Polyaromatic Hydrocarbon**

**Total HAPs = 9.38**

**Worst Single HAP**

**formaldehyde** (5.43 tons/yr)
Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Slag Processing

Company Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

The following calculations determine the unlimited emissions from the processing of slag in the aggregate drying/mixing:

<table>
<thead>
<tr>
<th>Type of Slag</th>
<th>SO2 Emission Factor (lb/ton)</th>
<th>Unlimited Potential to Emit SO2 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blast Furnace Slag*</td>
<td>0.00</td>
<td>0.0</td>
</tr>
<tr>
<td>Steel Slag**</td>
<td>0.0000</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Methodology
The maximum annual slag usage was provided by the source.

* Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Unlimited Potential to Emit SO2 from Slag (tons/yr) = ([Maximum Annual Slag Usage (ton/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs])

Abbreviations
SO2 = Sulfur Dioxide
### Appendix A.1: Unlimited Emissions Calculations

**Hot Oil Heater**

**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Harding Materials, Inc.

**Source Location:** 1100 South Tibbs Avenue, Indianapolis, IN 46241

**Permit Number:** F097-41186-00735

**Reviewer:** Mehul Sura

---

Maximum Hot Oil Heater Fuel Input Rate = 1.00 MMBtu/hr

Natural Gas Usage = 9 MMCF/yr

No. 2 Fuel Oil Usage = 0 gal/yr, and 0.00% sulfur

---

#### Unlimited/Uncontrolled Emissions

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hot Oil Heater Natural Gas (lb/MMCF)</td>
</tr>
<tr>
<td>PM</td>
<td>1.9</td>
</tr>
<tr>
<td>PM10/PM2.5</td>
<td>7.6</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
</tr>
<tr>
<td>NOx</td>
<td>100</td>
</tr>
<tr>
<td>VOC</td>
<td>2.5</td>
</tr>
<tr>
<td>CO</td>
<td>84</td>
</tr>
</tbody>
</table>

#### Hazardous Air Pollutant

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hot Oil Heater Natural Gas (lb/MMCF)</td>
</tr>
<tr>
<td>Arsenic</td>
<td>2.2E-04</td>
</tr>
<tr>
<td>Beryllium</td>
<td>1.2E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03</td>
</tr>
<tr>
<td>Lead</td>
<td>5.0E-04</td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04</td>
</tr>
<tr>
<td>Mercury</td>
<td>2.5E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03</td>
</tr>
<tr>
<td>Selenium</td>
<td>2.4E-05</td>
</tr>
<tr>
<td>Benzenne</td>
<td>2.1E-03</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>7.3E-02</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>1.8E+00</td>
</tr>
<tr>
<td>Hexane</td>
<td>3.4E-03</td>
</tr>
</tbody>
</table>

---

**Methodology**

- **Equivalent Natural Gas Usage (MMCF/yr)** = \[\text{[Maximum Fuel Input Rate (MMBtu/hr)] \times [8,760 hrs/yr]} \times [1 MMCF/1,000 MMBtu] \]
- **Equivalent Oil Usage (gal/yr)** = \[\text{[Maximum Fuel Input Rate (MMBtu/hr)] \times [8,760 hrs/yr]} \times [1 gal/0.140 MMBtu] \]
- **Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr)** = \[\text{[Maximum Natural Gas Usage (MMCF/yr)] \times \text{[Emission Factor (lb/MMCF)]} \times \text{[ton/2000 lbs]}}\]
- **All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr)** = \[\text{[Maximum Fuel Usage (gals/yr)] \times \text{[Emission Factor (lb/kgal)]} \times \text{[kgal/1000 gal]} \times \text{[ton/2000 lbs]}}\]

Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
- No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

**Abbreviations**

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- HAP = Hazardous Air Pollutant
- PM = Particulate Matter
- CO = Carbon Monoxide
- HCl = Hydrogen Chloride
- SO2 = Sulfur Dioxide
- NOx = Nitrous Oxides
- VOC = Volatile Organic Compounds

---

**Formaldehyde**

Equivalent Natural Gas Usage (MMCF/yr) = \[\text{[Maximum Fuel Input Rate (MMBtu/hr)] \times [8,760 hrs/yr]} \times [1 MMCF/1,000 MMBtu] \] \times [1 gal/0.140 MMBtu] \]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = \[\text{[Maximum Natural Gas Usage (MMCF/yr)] \times \text{[Emission Factor (lb/MMCF)]} \times \text{[ton/2000 lbs]}}\]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = \[\text{[Maximum Fuel Usage (gals/yr)] \times \text{[Emission Factor (lb/kgal)]} \times \text{[kgal/1000 gal]} \times \text{[ton/2000 lbs]}}\]
Appendix A.1: Unlimited Emissions Calculations
Hot Oil Heating System - Process Emissions

Company Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

The following calculations determine the unlimited/uncontrolled emissions from the combustion of natural gas and No. 2 fuel oil in the hot oil heating system, which is used to heat a specially designed transfer oil. The hot transfer oil is then pumped through a piping system that passes through the asphalt cement storage tanks, in order to keep the asphalt cement at the correct temperature.

Maximum Fuel Input Rate To Hot Oil Heater = 1.00 MMBtu/hr
Natural Gas Usage = 9 MMCF/yr, and
No. 2 Fuel OilUsage = 0 gal/yr

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas (lb/ft³)</th>
<th>No. 2 Fuel Oil (lb/gal)</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>PTE</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>2.00E-08</td>
<td>2.05E-03</td>
<td>1.14E-04</td>
<td>0.000</td>
<td>1.14E-04</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>8.90E-06</td>
<td>0.0012</td>
<td>0.039</td>
<td>0.000</td>
<td>0.039</td>
<td></td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2.00E-06</td>
<td>3.50E-06</td>
<td>1.14E-04</td>
<td>0.000</td>
<td>1.14E-04</td>
<td></td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>2.00E-07</td>
<td>0.0002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Anthracene</td>
<td>1.80E-07</td>
<td>0.0002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Benzo[b]fluoranthene</td>
<td>1.00E-07</td>
<td>0.0002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>4.40E-08</td>
<td>0.0002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Fluorene</td>
<td>3.20E-08</td>
<td>0.0002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1.70E-05</td>
<td>0.0002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>4.90E-06</td>
<td>0.0002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Pyrene</td>
<td>3.20E-08</td>
<td>0.0002</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Total HAPs</td>
<td>1.14E-04</td>
<td></td>
<td></td>
<td></td>
<td>1.14E-04</td>
<td></td>
</tr>
</tbody>
</table>

Worst Single HAP 1.14E-04 (Naphthalene)

Methodology
Natural Gas Usage (MMCF/yr) = (Maximum Fuel Input Rate (MMBtu/hr)) * (8,760 hrs/yr) * [1 MMCF/1,000 MMBtu]
No. 2 Fuel Oil Usage (gal/yr) = (Maximum Fuel Input Rate (MMBtu/hr)) * (8,760 hrs/yr) * [1 gal/0.140 MMBtu]
Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))*(Emission Factor (lb/CF))*(1000000 CF/MMCF)*(ton/2000 lbs)
No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gal/yr))*(Emission Factor (lb/gal))*(ton/2000 lbs)

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1)
1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations
CO = Carbon Monoxide  
VOC = Volatile Organic Compound  
CO2 = Carbon Dioxide
Appendix A.1: Unlimited Emissions Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel

Output Rating (=600 HP)

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

Output Horsepower Rating (hp) | 0
Maximum Hours Operated per Year | 8,760
Potential Throughput (hp-hr/yr) | 0
Maximum Diesel Fuel Usage (gal/yr) | 0

| Pollutant                | Emission Factor in lb/hp-hr | Total PAH HAPs
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PM2.5</td>
<td>0.0002</td>
<td>0.0002</td>
</tr>
<tr>
<td>PM10</td>
<td>0.0002</td>
<td>0.0002</td>
</tr>
<tr>
<td>SO2</td>
<td>0.0021</td>
<td>0.0021</td>
</tr>
<tr>
<td>NOx</td>
<td>0.0310</td>
<td>0.0310</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0025</td>
<td>0.0025</td>
</tr>
<tr>
<td>CO</td>
<td>0.008%</td>
<td>0.008%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/kgal4</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>9.33E-04</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Toluene</td>
<td>6.09E-04</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Xylene</td>
<td>2.65E-04</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>3.91E-04</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>1.88E-04</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>4.97E-04</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Acrolein</td>
<td>7.29E-05</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Total PAH HAPs</td>
<td>1.88E-04</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

1 The AP-42 Chapter 3.3.1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3.1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

2Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

3PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Methodology
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Maximum Diesel Fuel Usage (gal/yr) = Potential Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (Btu/lb) * 1/7.1 (gal/lb)
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3.1 and 3.3.2 and have been converted to lb/kgal
Potential Emissions (tons/yr) = [Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)
Appendix A.1: Unlimited Emissions Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

Output Horsepower Rating (hp) 0
Maximum Hours Operated per Year 0
Sulfur Content (S) of Fuel (% by weight) 0.00
Maximum Diesel Fuel Usage (gal/yr) 0

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/hp-hr</th>
<th>direct PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>7.00E-04</td>
<td>0.00E+00</td>
<td>2.40E-02</td>
<td>7.05E-04</td>
<td>5.50E-03</td>
<td></td>
</tr>
<tr>
<td>PM10</td>
<td>0.0573</td>
<td>0.0573</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>direct PM2.5</td>
<td>(0.008095)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO2</td>
<td>0.00E+00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOx</td>
<td>2.40E-02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOC</td>
<td>7.05E-04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>5.50E-03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Potential Emission in tons/yr 0.00 0.00 0.00 0.00 0.00 0.00 0.00

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMBtu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>13.70</td>
</tr>
<tr>
<td>Max.</td>
<td>7.85</td>
</tr>
<tr>
<td>Avg.</td>
<td>7.85</td>
</tr>
<tr>
<td>Min.</td>
<td>0.00</td>
</tr>
<tr>
<td>Sum</td>
<td>469.82</td>
</tr>
<tr>
<td>Total</td>
<td>13.80 107.67</td>
</tr>
</tbody>
</table>

\[ \text{Emission factor (lb/kgal)} = \text{AP-42 EF (lb/MMBtu)} \times \frac{1}{10^6} \times \frac{19,300}{7.1} \times 1,000 \]

Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMBtu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>7.76E-04</td>
</tr>
<tr>
<td>Max.</td>
<td>2.81E-04</td>
</tr>
<tr>
<td>Avg.</td>
<td>1.93E-04</td>
</tr>
<tr>
<td>Min.</td>
<td>7.89E-05</td>
</tr>
<tr>
<td>Sum</td>
<td>2.52E-05</td>
</tr>
<tr>
<td>Total</td>
<td>7.88E-06 2.12E-04</td>
</tr>
</tbody>
</table>

\[ \text{Emission factor (lb/kgal)} = \text{AP-42 EF (lb/MMBtu)} \times \frac{1}{10^6} \times \frac{19,300}{7.1} \times 1,000 \]

Methodology

\[ \text{Potential Throughput (hp-hr/yr)} = \text{Output Horsepower Rating (hp)} \times \text{Maximum Hours Operated per Year} \]

\[ \text{Maximum Diesel Fuel Usage (gal/yr)} = \text{Potential Throughput (hp-hr/yr)} \times 7000 \times \text{Emission Factor (lb/kgal)} \times \frac{1}{19300} \times 1/7.1 \]

Emission Factors are from AP-42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.

Potential Emissions (tons/yr) = Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal) / (2,000 lb/ton)
Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

Asphalt Temperature, \( T = 325 \) F
Asphalt Volatility Factor, \( V = -0.5 \)
Maximum Annual Asphalt Production = 3,504,000 tons/yr

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Load-Out (lb/ton asphalt)</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PM*</td>
<td>5.2E-04 5.9E-04 NA 0.91 1.03 NA 1.94</td>
<td>1.94</td>
</tr>
<tr>
<td>Organic PM</td>
<td>3.4E-04 2.5E-04 NA 0.60 0.445 NA 1.04</td>
<td>1.04</td>
</tr>
<tr>
<td>TOC</td>
<td>0.004 0.012 0.091 7.29 21.35 1.927 30.6</td>
<td>30.6</td>
</tr>
<tr>
<td>CO</td>
<td>0.001 0.001 0.051 2.36 2.007 0.617 5.05</td>
<td>5.05</td>
</tr>
</tbody>
</table>

NA = Not Applicable (no AP-42 Emission Factor)

PM/HAPs 0.042 0.050 0 0.093
VOC/HAPs 0.108 0.272 0.028 0.408
non-VOC/HAPs 5.9E-04 5.8E-05 1.5E-04 7.7E-04
non-VOC/non-HAPs 0.53 0.30 0.14 0.97

Total VOCs 6.85 21.35 1.8 30.0
Total HAPs 0.15 0.32 0.029 0.00
Worst Single HAP 0.155 (formaldehyde)

Methodology
The asphalt temperature and volatility factor were provided by the source.

**Unlimited/Uncontrolled Potential to Emit (tons/yr)** = \((\text{Maximum Annual Asphalt Production (tons/yr)} \times \text{Emission Factor (lb/ton)}) \times \text{ton/2000 lbs})


Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14):
- Total PM Ef = 0.000181 + 0.00141(-V)e^((0.0251)(T+460)-20.43)
- Organic PM Ef = 0.00141(-V)e^((0.0251)(T+460)-20.43)
- TOC Ef = 0.0172(-V)e^((0.0251)(T+460)-20.43)
- CO Ef = 0.00558(-V)e^((0.0251)(T+460)-20.43)

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):
- PM Ef = 0.000181 + 0.00141(-V)e^((0.0251)(T+460)-20.43)
- Organic PM Ef = 0.00141(-V)e^((0.0251)(T+460)-20.43)
- TOC Ef = 0.0504(-V)e^((0.0251)(T+460)-20.43)
- CO Ef = 0.00488(-V)e^((0.0251)(T+460)-20.43)

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

Abbreviations
- TOC = Total Organic Compounds
- CO = Carbon Monoxide
- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- HAP = Hazardous Air Pollutant
- VOC = Volatile Organic Compound
### Organic Particulate-Based Compounds (Table 11.1-15)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP Type</th>
<th>Source</th>
<th>Speciation Profile</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out and Onsite Yard (% by weight of Total Organic PM)</td>
<td>Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)</td>
</tr>
<tr>
<td>PAH HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out</td>
<td>Silo Filling</td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>83-32-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.26%</td>
<td>0.47%</td>
</tr>
<tr>
<td>acenaphthylene</td>
<td>203-86-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.028%</td>
<td>0.014%</td>
</tr>
<tr>
<td>Anthracene</td>
<td>120-12-7</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.07%</td>
<td>0.13%</td>
</tr>
<tr>
<td>Benzo[a]anthracene</td>
<td>56-55-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.019%</td>
<td>0.056%</td>
</tr>
<tr>
<td>Benzo[b]fluoranthene</td>
<td>205-89-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.007%</td>
<td>0</td>
</tr>
<tr>
<td>Benzo[k]fluoranthene</td>
<td>207-08-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.002%</td>
<td>0</td>
</tr>
<tr>
<td>Benzo[g,h,i]pyrene</td>
<td>191-24-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.019%</td>
<td>0</td>
</tr>
<tr>
<td>Benzo[k]pyrene</td>
<td>50-32-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.002%</td>
<td>0</td>
</tr>
<tr>
<td>Benzo[e]pyrene</td>
<td>192-97-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.007%</td>
<td>0.0095%</td>
</tr>
<tr>
<td>Chrysene</td>
<td>218-01-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.103%</td>
<td>0.21%</td>
</tr>
<tr>
<td>dibenz[a,h]anthracene</td>
<td>53-70-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0003%</td>
<td>0</td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>206-44-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.05%</td>
<td>0.15%</td>
</tr>
<tr>
<td>Fluorene</td>
<td>86-73-7</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.77%</td>
<td>1.01%</td>
</tr>
<tr>
<td>Indeno[1,2,3-cd]pyrene</td>
<td>193-38-5</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0004%</td>
<td>0</td>
</tr>
<tr>
<td>2-Methylanthanthrene</td>
<td>91-57-6</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>2.38%</td>
<td>5.27%</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>1.25%</td>
<td>1.82%</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>168-35-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.022%</td>
<td>0.03%</td>
</tr>
<tr>
<td>Pyrene</td>
<td>128-00-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.81%</td>
<td>1.80%</td>
</tr>
<tr>
<td>Total PAH HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.035</td>
<td>0.050</td>
</tr>
</tbody>
</table>

Other semi-volatile HAPs

| Phenol                 | PM/HAP  | ---    | Organic PM | 1.18%   | 0       | 7.0E-03 | 0       | 0       | 7.0E-03 |

NA = Not Applicable (no AP-42 Emission Factor)

**Methodology**

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]


**Abbreviations**

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter
### Organic Volatile-Based Compounds (Table 11.1-16)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP Type</th>
<th>Source</th>
<th>Speciation Profile</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out and Onsite Yard (% by weight of TOC)</td>
<td>Silo Filling and Asphalt Storage Tank (% by weight of TOC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>94%</td>
<td>100%</td>
</tr>
<tr>
<td>non-VOC/non-HAPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td>74-82-8</td>
<td>non-VOC/non-HAP</td>
<td></td>
<td>TOC</td>
<td>6.50%</td>
<td>0.26%</td>
</tr>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>non-VOC/non-HAP</td>
<td></td>
<td>TOC</td>
<td>0.046%</td>
<td>0.055%</td>
</tr>
<tr>
<td>Ethylene</td>
<td>74-85-1</td>
<td>non-VOC/non-HAP</td>
<td></td>
<td>TOC</td>
<td>0.71%</td>
<td>1.10%</td>
</tr>
<tr>
<td>Total non-VOC/non-HAPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.30%</td>
<td>1.40%</td>
</tr>
<tr>
<td>Volatile organic HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.052%</td>
<td>0.032%</td>
</tr>
<tr>
<td>Bromomethane</td>
<td>74-83-9</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.0096%</td>
<td>0.0049%</td>
</tr>
<tr>
<td>2-Butanone</td>
<td>78-92-3</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.049%</td>
<td>0.039%</td>
</tr>
<tr>
<td>Carbon Disulfide</td>
<td>75-15-0</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.013%</td>
<td>0.010%</td>
</tr>
<tr>
<td>Chloromethane</td>
<td>75-00-3</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.0062%</td>
<td>0.0024%</td>
</tr>
<tr>
<td>Chloromethane</td>
<td>74-87-3</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.015%</td>
<td>0.023%</td>
</tr>
<tr>
<td>Cumene</td>
<td>92-82-8</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.11%</td>
<td>0.17%</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.28%</td>
<td>0.038%</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>50-00-5</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.088%</td>
<td>0.89%</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>100-54-3</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.15%</td>
<td>0.10%</td>
</tr>
<tr>
<td>Isopropyl Alcohol</td>
<td>540-84-1</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.0518%</td>
<td>0.00031%</td>
</tr>
<tr>
<td>Methylene Chloride</td>
<td>75-09-2</td>
<td>non-VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0</td>
<td>0.00227%</td>
</tr>
<tr>
<td>MTBE</td>
<td>1634-04-4</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Styrene</td>
<td>100-42-5</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.0073%</td>
<td>0.00054%</td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
<td>127-18-4</td>
<td>non-VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.0077%</td>
<td>0</td>
</tr>
<tr>
<td>Toluene</td>
<td>100-88-3</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.21%</td>
<td>0.062%</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
<td>71-55-6</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>79-01-6</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Trichlorofluoromethane</td>
<td>75-89-4</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.0013%</td>
<td>0</td>
</tr>
<tr>
<td>2,3,4-Trimethyl Xylene</td>
<td>1336-20-7</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.41%</td>
<td>0.20%</td>
</tr>
<tr>
<td>o-Xylene</td>
<td>95-47-6</td>
<td>VOC/HAP</td>
<td></td>
<td>TOC</td>
<td>0.08%</td>
<td>0.057%</td>
</tr>
<tr>
<td>Total volatile organic HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.50%</td>
<td>1.30%</td>
</tr>
</tbody>
</table>

**Methodology**

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]


**Abbreviations**

TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether
Appendix A.1: Unlimited Emissions Calculations

Material Storage Piles

Company Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

\[
Ef = 1.7*(s/1.5)*(365-p)/235*(f/15)
\]

where

- \( Ef \) = emission factor (lb/acre/day)
- \( s \) = silt content (wt %)
- \( p \) = 125 days of rain greater than or equal to 0.01 inches
- \( f \) = 15% of wind greater than or equal to 12 mph

<table>
<thead>
<tr>
<th>Material</th>
<th>Silt Content (wt %)*</th>
<th>Emission Factor (lb/acre/day)</th>
<th>Maximum Anticipated Pile Size (acres)**</th>
<th>PTE of PM (tons/yr)</th>
<th>PTE of PM10/PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>2.6</td>
<td>3.01</td>
<td>0.80</td>
<td>0.439</td>
<td>0.154</td>
</tr>
<tr>
<td>Limestone</td>
<td>1.6</td>
<td>1.85</td>
<td>1.30</td>
<td>0.439</td>
<td>0.154</td>
</tr>
<tr>
<td>RAP</td>
<td>0.5</td>
<td>0.58</td>
<td>1.40</td>
<td>0.148</td>
<td>0.052</td>
</tr>
<tr>
<td>Gravel</td>
<td>1.6</td>
<td>1.85</td>
<td>1.20</td>
<td>0.406</td>
<td>0.142</td>
</tr>
<tr>
<td>Shingles</td>
<td>0.5</td>
<td>0.58</td>
<td>0</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Slag</td>
<td>3.9</td>
<td>4.40</td>
<td>0</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>1.43</strong></td>
<td><strong>0.50</strong></td>
</tr>
</tbody>
</table>

Methodology

\[
PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)
\]

\[
PTE of PM10/PM2.5 (tons/yr) = \text{Potential PM Emissions (tons/yr)} * 35%
\]

*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

**Maximum anticipated pile size (acres) provided by the source.

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit
RAP = Recycled Asphalt Pavement
Appendix A.1: Unlimited Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)
To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

\[ E_I = k \cdot (0.0032) \cdot \left( \frac{U}{5} \right)^{1.3} \cdot \left( \frac{M}{2} \right)^{1.4} \]

where:
- \( E_I \) = Emission factor (lb/ton)
- \( k \) = particle size multiplier
  - \( k_{(PM)} = 0.74 \) = particle size multiplier for aerodynamic diameter <=100 um
  - \( k_{(PM10)} = 0.35 \) = particle size multiplier for aerodynamic diameter <=10 um
  - \( k_{(PM2.5)} = 0.053 \) = particle size multiplier for aerodynamic diameter <=2.5 um
- \( U \) = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
- \( M \) = 10 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)

\[ \begin{align*}
E_{I_{(PM)}} &= 2.27E-03 \text{ lb PM/ton of material handled} \\
E_{I_{(PM10)}} &= 1.07E-03 \text{ lb PM10/ton of material handled} \\
E_{I_{(PM2.5)}} &= 1.62E-04 \text{ lb PM2.5/ton of material handled}
\end{align*} \]

Maximum Annual Asphalt Production = 3,563,800 tons/yr
Percent Asphalt Cement/Binder (weight %) = 5.0%
Maximum Material Handling Throughput = 3,328,800 tons/yr

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Unlimited/Uncontrolled PTE of PM (tons/yr)</th>
<th>Unlimited/Uncontrolled PTE of PM10 (tons/yr)</th>
<th>Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck unloading of materials into storage piles</td>
<td>3.77</td>
<td>1.78</td>
<td>0.27</td>
</tr>
<tr>
<td>Front-end loader dumping of materials into feeder bins</td>
<td>3.77</td>
<td>1.78</td>
<td>0.27</td>
</tr>
<tr>
<td>Conveyor dropping material into dryer/mixer or batch tower</td>
<td>3.77</td>
<td>1.78</td>
<td>0.27</td>
</tr>
<tr>
<td>Total (tons/yr)</td>
<td>11.32</td>
<td>5.35</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Methodology
The percent asphalt cement/binder provided by the source.
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] \times [1 - Percent Asphalt Cement/Binder (weight %)]

Unlimited Potential to Emit (tons/yr) = \left( \text{Maximum Material Handling Throughput (tons/yr)} \right) \times \left( \text{Emission Factor (lb/ton)} \right) \times \left( \frac{\text{ton}}{2000 \text{ lbs}} \right)

Material Screening and Conveying (AP-42 Section 11.19.2)
To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 11.19.2 (dated 8/04) are utilized.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Uncontrolled Emission Factor for PM (lbs/ton)*</th>
<th>Uncontrolled Emission Factor for PM10 (lbs/ton)*</th>
<th>Unlimited/Uncontrolled PTE of PM (tons/yr)</th>
<th>Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing</td>
<td>0.0064</td>
<td>0.0024</td>
<td>8.99</td>
<td>3.99</td>
</tr>
<tr>
<td>Screening</td>
<td>0.025</td>
<td>0.0087</td>
<td>41.61</td>
<td>14.48</td>
</tr>
<tr>
<td>Conveying</td>
<td>0.003</td>
<td>0.0011</td>
<td>4.99</td>
<td>1.63</td>
</tr>
<tr>
<td><strong>Unlimited Potential to Emit (tons/yr)</strong> = 55.59</td>
<td>\left( \text{PM10} = \text{MPM2.5} \right)</td>
<td>20.31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Methodology
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] \times [1 - Percent Asphalt Cement/Binder (weight %)]

Raw materials may include stone, gravel, slag, and recycled asphalt pavement (RAP).
Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2).  The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
**Assumes PM10 = PM2.5

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate matter (< 2.5 um)
PTE = Potential to Emit
### Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

### Maximum Annual Asphalt Production

- **3,504,000** tons/yr

### Maximum Material Handling Throughput

- **172,400** tons/yr

### Maximum No. 2 Fuel Oil Usage

- 0 gallons/yr

### Abbreviations

- **PM** = Particulate Matter
- **PM10** = Particulate Matter (<10 um)
- **PM2.5** = Particulate Matter (<2.5 um)
- **PTE** = Potential to Emit

### Controlled PTE (tons/yr)

\[
\text{Controlled PTE (tons/yr)} = (\text{Mitigated PTE (tons/yr)}) \times (1 - \text{Dust Control Efficiency})
\]

### Unmitigated PTE (tons/yr)

\[
\text{Unmitigated PTE (tons/yr)} = (\text{Maximum one-way miles (miles/yr)}) \times (\text{Unmitigated Emission Factor (lb/mile)}) \times (\text{ton/2000 lbs})
\]

### Average Vehicle Weight Per Trip

\[
\text{Average Vehicle Weight Per Trip} = \frac{\text{Total Weight driven per year (ton/yr)}}{\text{Maximum trips per year (trip/yr)}}
\]

### Maximum Weight of Vehicle and Load (tons/trip)

\[
\text{Maximum Weight of Vehicle and Load (tons/trip)} = (\text{Maximum Weight of Vehicle (tons/trip)}) + (\text{Maximum Weight of Load (tons/trip)})
\]

### Maximum Material Handling Throughput

\[
\text{Maximum Material Handling Throughput} = (\text{Annual Asphalt Production Limitation (tons/yr)}) \times (1 - \text{Percent Asphalt Cement/Binder (weight %)})
\]

### Maximum Weight of Vehicle and Load (tons/yr)

\[
\text{Maximum Weight of Vehicle and Load (tons/yr)} = (\text{Maximum Weight of Vehicle (tons/yr)}) \times (\text{Maximum trips per year (trip/yr)})
\]

### Maximum one-way distance (feet/trip)

\[
\text{Maximum one-way distance (feet/trip)} = (\text{Average Vehicle Weight Per Trip (ton/trip)}) \times (\text{Total Weight driven per year (ton/yr)}) / (\text{Average Weight Per Trip (ton/trip)})
\]

### Process

<table>
<thead>
<tr>
<th>Process Type</th>
<th>Vehicle Type</th>
<th>Maximum Weight of Vehicle (tons)</th>
<th>Maximum Weight of Load (tons)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/trip)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate/RAP Truck Empty</td>
<td>Dump truck (16 CY)</td>
<td>17.0</td>
<td>22.4</td>
<td>14.94</td>
<td>3.31</td>
</tr>
<tr>
<td>Aggregate/RAP Truck Load Empty</td>
<td>Dump truck (16 CY)</td>
<td>22.10</td>
<td>0.15</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Asphalt Cement/Binder Truck Empty</td>
<td>Dump truck (8000 gal)</td>
<td>12.0</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Asphalt Cement/Binder Truck Load Empty</td>
<td>Front-end loader (3 CY)</td>
<td>18.0</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Asphalt Concrete Truck Empty</td>
<td>Dump truck (16 CY)</td>
<td>17.0</td>
<td>0</td>
<td>14.94</td>
<td>3.31</td>
</tr>
<tr>
<td>Asphalt Concrete Truck Load Empty</td>
<td>Dump truck (16 CY)</td>
<td>22.30</td>
<td>0.15</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### Total

- **2.2E+06** tons/yr

### Methodology

1. **Maximum Weight of Vehicle**: The maximum weight of a vehicle is determined by the maximum weight of the vehicle and load multiplied by the maximum number of trips per year.

2. **Maximum Weight of Load**: The maximum weight of the load is determined by the maximum number of trips per year.

3. **Maximum one-way distance**: The maximum one-way distance is calculated by multiplying the average vehicle weight per trip by the total weight driven per year.

4. **Controlled PTE**: The controlled PTE is calculated by multiplying the unmitigated PTE by the dust control efficiency.

---

**Unpaved Roads**

**Source Address**: 1100 South Tibbs Avenue, Indianapolis, IN 46241

**Company Name**: Harding Materials, Inc.

**Permit Number**: F097-41186-00735

**Reviewer**: Mehul Sura

---

**Appendix A.1: Unlimited Emissions Calculations**
### Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

#### Controlled PTE (tons/yr)

\[
\text{Controlled PTE (tons/yr)} = (\text{Mitigated PTE (tons/yr)}) \times (1 - \text{Dust Control Efficiency})
\]

#### Mitigated PTE (tons/yr)

\[
\text{Mitigated PTE (tons/yr)} = (\text{Maximum one-way miles (miles/yr)}) \times (\text{Mitigated Emission Factor (lb/mile)}) \times (\text{ton/2000 lbs})
\]

#### Unmitigated PTE (tons/yr)

\[
\text{Unmitigated PTE (tons/yr)} = (\text{Maximum one-way miles (miles/yr)}) \times (\text{Unmitigated Emission Factor (lb/mile)}) \times (\text{ton/2000 lbs})
\]

#### Average Miles Per Trip (miles/trip)

\[
\text{Average Miles Per Trip} = \frac{\text{SUM}[\text{Maximum one-way distance (mi/trip)}]}{\text{SUM}[\text{Maximum trips per year (trip/yr)}]}
\]

#### Average Vehicle Weight Per Trip (ton/trip)

\[
\text{Average Vehicle Weight Per Trip} = \frac{\text{SUM}[\text{Total Weight driven per year (ton/yr)}]}{\text{SUM}[\text{Maximum trips per year (trip/yr)}]}
\]

#### Maximum No. 2 Fuel Oil Usage = \[\text{Maximum one-way distance (mi/trip)} \times \text{Average Vehicle Weight Per Trip (ton/trip)}
\]

#### Maximum Asphalt Cement/Binder Throughput = \[\text{Annual Asphalt Production Limitation (tons/yr)} \times \text{Percent Asphalt Cement/Binder (weight %)} \]

#### Maximum Material Handling Throughput = \[\text{Annual Asphalt Production Limitation (tons/yr)} \times (1 - \text{Percent Asphalt Cement/Binder (weight %)}) \]

#### Methodology

- **Maximum Annual Asphalt Production**: \[5,504,000\] tons/yr
- **Percent Asphalt Cement/Binder (weight %)**: 5.5%
- **Maximum Material Handling Throughput**: \[1,729,166\] tons/yr
- **Maximum No. 2 Fuel Oil Usage**: \[0\] tons/yr

#### Abbreviations

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- PTE = Potential to Emit

#### Source

**Appendix A: Unlimited Emissions Calculations**

**Paved Roads**

**Company Name**: Harding Materials, Inc. 5

**Source Address**: 1100 South Tibbs Avenue, Indianapolis, IN 46241

**Permit Number**: F097-41186-00735

**Reviewer**: Mehul Sura

---

<table>
<thead>
<tr>
<th>Process/Stage</th>
<th>Vehicle Type</th>
<th>Maximum Weight of Vehicle (tons)</th>
<th>Maximum Weight of Load (tons)</th>
<th>Maximum trips per year (trip/yr)</th>
<th>Maximum one-way distance (mi/trip)</th>
<th>Maximum one-way distance (mi/day)</th>
<th>Maximum one-way distance (mi/year)</th>
<th>Unmitigated PTE of PM (tons/yr)</th>
<th>Mitigated PTE of PM (tons/yr)</th>
<th>Controlled PTE of PM (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate/RAP Truck Empty</td>
<td>Dump truck (16 CY)</td>
<td>17.0</td>
<td>22.4</td>
<td>35.40</td>
<td>1.5E+05</td>
<td>265</td>
<td>0.050</td>
<td>7,327.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggregate/RAP Truck Empty</td>
<td>Front-end loader (3 CY)</td>
<td>15.0</td>
<td>0</td>
<td>15.00</td>
<td>7.9E+05</td>
<td>1.2E+07</td>
<td>265</td>
<td>0.050</td>
<td>39,778.7</td>
<td></td>
</tr>
<tr>
<td>Aggregate/RAP Truck Empty</td>
<td>Tanker truck (6000 gal)</td>
<td>12.0</td>
<td>24.0</td>
<td>36.00</td>
<td>7.3E+03</td>
<td>2.6E+05</td>
<td>265</td>
<td>0.050</td>
<td>366.4</td>
<td></td>
</tr>
<tr>
<td>Aggregate/RAP Truck Empty</td>
<td>Dump truck (16 CY)</td>
<td>17.0</td>
<td>22.4</td>
<td>39.40</td>
<td>1.5E+05</td>
<td>5.9E+06</td>
<td>265</td>
<td>0.050</td>
<td>7,458.5</td>
<td></td>
</tr>
</tbody>
</table>

#### Calculations

- **PM = Particulate Matter**
- **Abbreviations**
- **Controlled PTE (tons/yr)** = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)
- **Mitigated PTE (tons/yr)** = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
- **Unmitigated PTE (tons/yr)** = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
- **Average  Miles Per Trip (miles/trip)** = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
- **Average Vehicle Weight Per Trip (ton/trip)** = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
- **Maximum No. 2 Fuel Oil Usage** = (Maximum one-way distance (mi/trip)) * (Average Vehicle Weight Per Trip (ton/trip))
- **Maximum Asphalt Cement/Binder Throughput** = \[\text{Annual Asphalt Production Limitation (tons/yr)} \times \text{Percent Asphalt Cement/Binder (weight %)} \]
- **Maximum Material Handling Throughput** = \[\text{Annual Asphalt Production Limitation (tons/yr)} \times (1 - \text{Percent Asphalt Cement/Binder (weight %)}) \]
- **Maximum one-way distance (mi/trip)** = \[\text{Maximum one-way distance (feet/trip)} / 5280 \]
- **Maximum trips per year (trip/yr)** = \[\text{Throughput (tons/yr)} / \text{Maximum Weight of Load (tons/trip)} \]
- **Maximum one-way distance (mi/day)** = \[\text{Average Miles Per Trip} \times \text{Average Vehicle Weight Per Trip} \]
Appendix A.1: Unlimited Emissions Calculations
Cold Mix Asphalt Production and Stockpiles

Company Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

Maximum Annual Asphalt Production = 3,504,000 tons/yr
Percent Asphalt Cement/Binder (weight %) = 0.0%
Maximum Asphalt Cement/Binder Throughput = 0 tons/yr

### Volatile Organic Compounds

<table>
<thead>
<tr>
<th>Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)</th>
<th>Maximum weight % of VOC solvent in binder*</th>
<th>Weight % of VOC solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.3%</td>
<td>95.0%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cut back asphalt medium cure (assuming kerosene solvent)</th>
<th>Maximum weight % of VOC solvent in binder*</th>
<th>Weight % of VOC solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.6%</td>
<td>70.0%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cut back asphalt slow cure (assuming fuel oil solvent)</th>
<th>Maximum weight % of VOC solvent in binder*</th>
<th>Weight % of VOC solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.0%</td>
<td>25.0%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)</th>
<th>Maximum weight % of VOC solvent in binder*</th>
<th>Weight % of VOC solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.0%</td>
<td>46.4%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other asphalt with solvent binder</th>
<th>Maximum weight % of VOC solvent in binder*</th>
<th>Weight % of VOC solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.9%</td>
<td>2.5%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Worst Case PTE of VOC = 0.0

### Hazardous Air Pollutants

<table>
<thead>
<tr>
<th>Hazardous Air Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worst Case Total HAP Content of VOC solvent (weight %)* = 26.08%</td>
</tr>
<tr>
<td>Worst Case Single HAP Content of VOC solvent (weight %)* = 9.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatile Organic HAP</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
</tr>
<tr>
<td>Acenaphthene</td>
</tr>
<tr>
<td>Anthracene</td>
</tr>
<tr>
<td>Benzo(a)anthracene</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
</tr>
<tr>
<td>Benzo[b]pyrene</td>
</tr>
<tr>
<td>Benzo[k]fluoranthene</td>
</tr>
<tr>
<td>Benzo[k]fluoranthene</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
</tr>
<tr>
<td>Total Organic HAPs</td>
</tr>
<tr>
<td>Total Organic HAPs</td>
</tr>
<tr>
<td>Total Organic HAPs</td>
</tr>
<tr>
<td>Total Organic HAPs</td>
</tr>
<tr>
<td>Total Organic HAPs</td>
</tr>
</tbody>
</table>

Methodology

Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]

Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]


Abbreviations

VOC = Volatile Organic Compounds
PTE = Potential to Emit
## Limited Emissions Summary

### Entire Source - Drum Mix

**Company Name:** Harding Materials, Inc  
**Source Address:** 1100 South Tibbs Avenue, Indianapolis, IN 46241  
**Permit Number:** F097-41166-00735  
**Reviewer:** Mehul Sura

### Asphalt Plant Limitations - Drum Mix

<table>
<thead>
<tr>
<th>Process Description</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ducted Emissions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryer/Mixer (Process)</td>
<td>161.14</td>
<td>67.72</td>
<td>74.69</td>
<td>1.39</td>
<td>10.66</td>
<td>13.12</td>
<td>53.30</td>
<td>2.20</td>
<td>1.27 (formaldehyde)</td>
</tr>
<tr>
<td>Dryer/Mixer Slag Processing</td>
<td>0.182</td>
<td>0.130</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Diesel-Fired Generator &lt; 600 HP</td>
<td>0.01</td>
<td>0.03</td>
<td>0.03</td>
<td>2.83E-03</td>
<td>0.04</td>
<td>0.02</td>
<td>0.37</td>
<td>8.27E-03</td>
<td>7.88E-04 (hexane)</td>
</tr>
<tr>
<td>Diesel-Fired Generator &gt; 600 HP</td>
<td>0.01</td>
<td>0.03</td>
<td>0.03</td>
<td>2.83E-03</td>
<td>0.04</td>
<td>0.02</td>
<td>0.37</td>
<td>8.27E-03</td>
<td>7.88E-04 (hexane)</td>
</tr>
<tr>
<td>RAP Crusher Equipment</td>
<td>43.9</td>
<td>16.0</td>
<td>16.0</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Worst Case Emissions**

- PM: 205.04  
- PM10: 63.79  
- PM2.5: 90.75  
- SO2: 1.40  
- NOx: 99.00  
- VOC: 13.14  
- CO: 53.67  
- Total HAPs: 2.20  
- Worst Case HAP: 1.27 (formaldehyde)

### Fugitive Emissions

<table>
<thead>
<tr>
<th>Process Description</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphault Load-Out, Silo Filling, On-Site Yard</td>
<td>0.45</td>
<td>0.45</td>
<td>0.45</td>
<td>0.00</td>
<td>0.00</td>
<td>7.02</td>
<td>1.18</td>
<td>0.12</td>
<td>0.04 (formaldehyde)</td>
</tr>
<tr>
<td>Material Storage Pits</td>
<td>1.43</td>
<td>1.50</td>
<td>1.50</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Material Processing and Handling</td>
<td>2.85</td>
<td>1.25</td>
<td>1.90</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Unpaved and Paved Roads (worst case)</td>
<td>25.74</td>
<td>6.56</td>
<td>0.96</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Cold Mix Asphalt Production</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Waste Organic Liquid Storage Vessels</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>negl</td>
<td>negl</td>
<td>negl</td>
<td>negl</td>
<td>negl</td>
<td>negl</td>
</tr>
</tbody>
</table>

**Total Fugitive Emissions:** 43.29  
**Worst Case Emissions (tons/yr):** 205.04  
**Formaldehyde:** 1.27

### Limited/Controlled Emissions

<table>
<thead>
<tr>
<th>Process Description</th>
<th>Limited/Controlled Potential Emissions (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asphalt Plant Limitations</strong></td>
<td><strong>Annual Asphalt Production Limitation =</strong> 820,000 ton/yr</td>
</tr>
<tr>
<td></td>
<td><strong>Blast Furnace Slag Usage Limitation =</strong> 0 ton/yr</td>
</tr>
<tr>
<td></td>
<td><strong>Steel Slag Usage Limitation =</strong> 0 ton/yr</td>
</tr>
<tr>
<td></td>
<td><strong>Maximum Dryer Fuel Input Rate =</strong> 128 MMBtu/hr</td>
</tr>
<tr>
<td></td>
<td><strong>Natural Gas Limitation =</strong> 1,037 MMCF/yr</td>
</tr>
<tr>
<td></td>
<td><strong>No. 2 Fuel Oil Limitation =</strong> 0 gal/yr, and 0% sulfur</td>
</tr>
<tr>
<td></td>
<td><strong>No. 4 Fuel Oil Limitation =</strong> 0 gal/yr, and 0% sulfur</td>
</tr>
<tr>
<td></td>
<td><strong>Residual (No. 5 or No. 6) Fuel Oil Limitation =</strong> 0 gal/yr, and 0% sulfur</td>
</tr>
<tr>
<td></td>
<td><strong>Propane Limitation =</strong> 0 gal/yr, and 0% sulfur</td>
</tr>
<tr>
<td></td>
<td><strong>Butane Limitation =</strong> 0 gal/yr, and 0% sulfur</td>
</tr>
<tr>
<td></td>
<td><strong>Used/Waste Oil Limitation =</strong> 0 gal/yr, and 0% sulfur</td>
</tr>
<tr>
<td></td>
<td><strong>PM Dryer/Mixer Limitation =</strong> 0.393 lb/ton of asphalt production</td>
</tr>
<tr>
<td></td>
<td><strong>PM10 Dryer/Mixer Limitation =</strong> 0.165 lb/ton of asphalt production</td>
</tr>
<tr>
<td></td>
<td><strong>PM2.5 Dryer/Mixer Limitation =</strong> 0.162 lb/ton of asphalt production</td>
</tr>
<tr>
<td></td>
<td><strong>CO Dryer/Mixer Limitation =</strong> 0.130 lb/ton of asphalt production</td>
</tr>
<tr>
<td></td>
<td><strong>VOC Dryer/Mixer Limitation =</strong> 0.032 lb/ton of asphalt production</td>
</tr>
<tr>
<td></td>
<td><strong>PM Dryer/Mixer Slag Processing Limitation =</strong> 0 lb/ton of slag processed</td>
</tr>
<tr>
<td></td>
<td><strong>Steel Slag SO2 Dryer/Mixer Limitation =</strong> 0 lb/ton of slag processed</td>
</tr>
<tr>
<td></td>
<td><strong>Cold Mix Asphalt VOC Limitation =</strong> 0 tons/yr</td>
</tr>
<tr>
<td></td>
<td><strong>HCl Limitation =</strong> 0 lb/kgal</td>
</tr>
</tbody>
</table>

**Totals Limited/Controlled Emissions:** 248.33
### Potential Emissions (tons/yr)

<table>
<thead>
<tr>
<th>RAP Crusher Equipment</th>
<th>Throughput (tons/hr)</th>
<th>PM (lb/ton)</th>
<th>PM10 (lb/ton)</th>
<th>PM10 (tons/year)</th>
<th>PM2.5 (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary Crushing</td>
<td>300</td>
<td>0.0054</td>
<td>0.0024</td>
<td>7.0956</td>
<td>3.1536</td>
</tr>
<tr>
<td>Screening</td>
<td>300</td>
<td>0.025</td>
<td>0.0087</td>
<td>32.85</td>
<td>11.4318</td>
</tr>
<tr>
<td>Conveyor Transfer Point</td>
<td>300</td>
<td>0.003</td>
<td>0.0011</td>
<td>3.942</td>
<td>1.4454</td>
</tr>
</tbody>
</table>

Methodology

Emission factors are from ap42 Table 11.19.2-2.  
Potential Emissions (tons/yr) = Throughput (tons/hr) x emission factor (lb/ton) x [8760 (hrs/yr) / 2000 (lbs/ton)]  
PM10=PM2.5
The following calculations determine the limited emissions created from the combustion of natural gas, fuel, oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

### Fuel Limitations

<table>
<thead>
<tr>
<th>Maximum Fuel Input Rate</th>
<th>Natural Gas Limitation</th>
<th>No. 2 Fuel Oil Limitation</th>
<th>No. 4 Fuel Oil Limitation</th>
<th>Residual (No. 5 or No. 6) Fuel Oil Limitation</th>
<th>Propane Limitation</th>
<th>Butane Limitation</th>
<th>Used/Waste Oil Limitation</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Limited Emissions

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas (lb/MMCF)</th>
<th>No. 2 Fuel Oil (lb/bgal)</th>
<th>No. 4 Fuel Oil (lb/bgal)</th>
<th>Residual (No. 5 or No. 6) Fuel Oil (lb/bgal)</th>
<th>Propane (tons/yr)</th>
<th>Butane (tons/yr)</th>
<th>Used/Waste Oil (tons/yr)</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>84</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>7.6</td>
<td>1.0</td>
<td>0.0</td>
<td>0.98</td>
</tr>
<tr>
<td>NOx</td>
<td>242</td>
<td>52.2</td>
<td>47.9</td>
<td>47.9</td>
<td>190</td>
<td>24.0</td>
<td>170</td>
<td>170</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>cis-Dichloroethene</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Acrolein</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Benzene</td>
<td>2.1E-03</td>
<td>2.14E-04</td>
<td>2.14E-04</td>
<td>2.14E-04</td>
<td>1.18E-03</td>
<td>0.0</td>
<td>0.0</td>
<td>1.19E-03</td>
</tr>
<tr>
<td>Bis(2-ethylhexyl)phthalate</td>
<td>2.2E-03</td>
<td>6.36E-05</td>
<td>6.36E-05</td>
<td>6.36E-05</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03</td>
<td>6.10E-02</td>
<td>6.10E-02</td>
<td>6.10E-02</td>
<td>6.10E-02</td>
<td>0.0</td>
<td>0.0</td>
<td>6.10E-02</td>
</tr>
<tr>
<td>Ethylene</td>
<td>6.36E-05</td>
<td>6.36E-05</td>
<td>6.36E-05</td>
<td>6.36E-05</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.5E-02</td>
<td>3.30E-02</td>
<td>3.30E-02</td>
<td>3.30E-02</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hexane</td>
<td>1.8E+00</td>
<td>7.8E-02</td>
<td>2.4E-02</td>
<td>2.4E-02</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Phenol</td>
<td>3.4E-03</td>
<td>1.13E-03</td>
<td>1.13E-03</td>
<td>1.13E-03</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total PAHs</td>
<td>1.13E-03</td>
<td>1.13E-03</td>
<td>1.13E-03</td>
<td>1.13E-03</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>3.30E-03</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>1.10E-04</td>
<td>1.10E-04</td>
<td>1.10E-04</td>
<td>1.10E-04</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**Methodology**

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)

**Abbreviations**

PM = Particulate Matter  CO = Carbon Monoxide  HAP = Hazardous Air Pollutant

PM2.5 = Particulate Matter (< 2.5 um)  HCl = Hydrogen Chloride

NOx = Nitric Oxides  HAP = Polyaromatic Hydrocarbon

VOC = Volatile Organic Compounds

*Slight errors in formatting and calculation. Please review for accuracy.*
The following calculations determine the limited emissions from the aggregate drying/mixing:

\[
\text{Maximum Hourly Asphalt Production} = \frac{400 \text{ ton/hr}}{2000 \text{ lbs/ton}} = 0.2 \text{ ton/hr} \\
\text{Annual Asphalt Production Limitation} = 820,000 \text{ ton/yr} \\
\text{PM Dryer/Mixer Limitation} = 0.393 \text{ lb/ton of asphalt production} \\
\text{PM2.5 Dryer/Mixer Limitation} = 0.165 \text{ lb/ton of asphalt production} \\
\text{CO Dryer/Mixer Limitation} = 0.130 \text{ lb/ton of asphalt production} \\
\text{VOC Dryer/Mixer Limitation} = 0.032 \text{ lb/ton of asphalt production}
\]

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Worse Case PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>0.393</td>
<td>0.393</td>
<td>0.393</td>
<td>161.1</td>
<td>0.0</td>
<td>0.0</td>
<td>161.1</td>
</tr>
<tr>
<td>PM10*</td>
<td>0.165</td>
<td>0.165</td>
<td>0.165</td>
<td>67.7</td>
<td>0.0</td>
<td>0.0</td>
<td>67.7</td>
</tr>
<tr>
<td>SO2**</td>
<td>0.003</td>
<td>0.011</td>
<td>0.068</td>
<td>1.4</td>
<td>0.0</td>
<td>0.0</td>
<td>1.4</td>
</tr>
<tr>
<td>NOx**</td>
<td>0.026</td>
<td>0.036</td>
<td>0.035</td>
<td>12.7</td>
<td>0.0</td>
<td>0.0</td>
<td>12.7</td>
</tr>
<tr>
<td>VOC**</td>
<td>0.032</td>
<td>0.032</td>
<td>0.032</td>
<td>13.1</td>
<td>0.0</td>
<td>0.0</td>
<td>13.1</td>
</tr>
<tr>
<td>CO**</td>
<td>0.130</td>
<td>2.130</td>
<td>0.130</td>
<td>53.3</td>
<td>0.0</td>
<td>0.0</td>
<td>53.3</td>
</tr>
</tbody>
</table>

** PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.

** SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

** CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 2 fuel oil, and No. 6 fuel oil to develop single CO emission factor.
Appendix A.2: Limited Emissions Summary

Drier/Mixer Slag Processing

Company Name: Harding Materials, Inc. 5
Source Address: 1190 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

The following calculations determine the limited emissions from the processing of slag in the aggregate drying/mixing process:

<table>
<thead>
<tr>
<th>Type of Slag</th>
<th>SO2 Emission Factor (lb/ton)</th>
<th>Limited Potential to Emit SO2 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blast Furnace Slag*</td>
<td>0.0000</td>
<td>0.00</td>
</tr>
<tr>
<td>Steel Slag**</td>
<td>0.0000</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Limited Blast Furnace Slag Usage = 0 ton/yr 0.00 % sulfur
Limited Annual Steel Slag Usage = 0 ton/yr 0.00 % sulfur

Methodology

* Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an emission factor of 0.04 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Limited Potential to Emit SO2 from Slag (tons/yr) = [Limited Slag Usage (ton/yr)] × [Emission Factor (lb/ton)] × [ton/2000 lbs]

Abbreviations
SO2 = Sulfur Dioxide
**Appendix A.2: Limited Emissions Summary**

**Hot Oil Heater**

**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Harding Materials, Inc. 5  
**Source Location:** 1100 South Tibbs Avenue, Indianapolis, IN 46241  
**Permit Number:** F097-41186-00735  
**Reviewer:** Mehul Sura

Maximum Hot Oil Heater Fuel Input Rate = 1.00 MMBtu/hr  
Natural Gas Usage = 9 MMCF/yr  
No. 2 Fuel Oil Usage = 0 gal/yr, and 0.00 % sulfur

### Unlimited/Uncontrolled Emissions

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>PM10/PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Hazardous Air Pollutant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot Oil Heater</td>
<td>Natural Gas Fuel Oil (lb/MMCF)</td>
<td>7.5</td>
<td>0.9</td>
<td>100</td>
<td>5.5</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>No. 2 Fuel Oil (lb/kgal)</td>
<td>3.3</td>
<td>710</td>
<td>20.0</td>
<td>0.20</td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td>Unlimited/Uncontrolled Potential to Emit (tons/yr)</td>
<td>0.033</td>
<td>0.000</td>
<td>0.438</td>
<td>0.024</td>
<td>0.386</td>
</tr>
<tr>
<td></td>
<td>Worse Case Fuel (tons/yr)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous Air Pollutant</th>
<th>Arsenic</th>
<th>Beryllium</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Lead</th>
<th>Manganese</th>
<th>Mercury</th>
<th>Nickel</th>
<th>Toluene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas Fuel Oil (lb/MMCF)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>No. 2 Fuel Oil (lb/kgal)</td>
<td>5.6E-04</td>
<td>4.2E-04</td>
<td>4.2E-04</td>
<td>4.2E-04</td>
<td>4.2E-04</td>
<td>4.2E-04</td>
<td>4.2E-04</td>
<td>4.2E-04</td>
<td>4.2E-04</td>
</tr>
<tr>
<td>Unlimited/Uncontrolled Potential to Emit (tons/yr)</td>
<td>8.8E-07</td>
<td>3.7E-07</td>
<td>2.2E-06</td>
<td>6.1E-06</td>
<td>2.2E-06</td>
<td>71.0E-03</td>
<td>4.2E-04</td>
<td>9.2E-06</td>
<td>0.000</td>
</tr>
<tr>
<td>Worse Case Fuel (tons/yr)</td>
<td>8.8E-07</td>
<td>3.7E-07</td>
<td>2.2E-06</td>
<td>6.1E-06</td>
<td>2.2E-06</td>
<td>71.0E-03</td>
<td>4.2E-04</td>
<td>9.2E-06</td>
<td>0.000</td>
</tr>
</tbody>
</table>

### Methodology

- **Equivalent Natural Gas Usage (MMCF/yr)** = \( \left[ \text{Maximum Fuel Input Rate (MMBtu/hr)} \times \left( \frac{8,760 \text{ hrs/yr}}{1 \text{ MMBtu}} \right) \right] \times \left( \frac{1 \text{ MMCF}}{1,000 \text{ MMBtu}} \right) \)
- **Equivalent Oil Usage (gal/yr)** = \( \left[ \text{Maximum Fuel Input Rate (MMBtu/hr)} \times \left( \frac{8,760 \text{ hrs/yr}}{1 \text{ MMBtu}} \right) \right] \times \left( \frac{1 \text{ gal}}{0.140 \text{ MMBtu}} \right) \)
- **Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr)** = \( \left[ \text{Maximum Natural Gas Usage (MMCF/yr)} \times \left( \text{Emission Factor (lb/MMCF)} \right) \times \left( \frac{1 \text{ ton}}{2000 \text{ lbs}} \right) \right] \)
- **All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr)** = \( \left[ \text{Maximum Fuel Usage (gals/yr)} \times \left( \text{Emission Factor (lb/kgal)} \right) \times \left( \frac{1 \text{ kgal}}{1000 \text{ gal}} \right) \times \left( \frac{1 \text{ ton}}{2000 \text{ lbs}} \right) \right] \)

**Abbreviations**

- PM = Particulate Matter
- CO = Carbon Monoxide
- PM10 = Particulate Matter (<10 um)
- HAP = Hazardous Air Pollutant
- PM2.5 = Particulate Matter (<2.5 um)
- HCl = Hydrogen Chloride
- SO2 = Sulfur Dioxide
- PAH = Polynuclear Aromatic Hydrocarbons
- NOx = Nitrous Oxides
- VOC = Volatile Organic Compounds
Appendix A.2: Limited Emissions Summary
Hot Oil Heating System - Process Emissions

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

The following calculations determine the unlimited/uncontrolled emissions from the combustion of natural gas and No. 2 fuel oil in the hot oil heating system, which is used to heat a specially designed transfer oil. The hot transfer oil is then pumped through a piping system that passes through the asphalt cement storage tanks, in order to keep the asphalt cement at the correct temperature.

Maximum Fuel Input Rate To Hot Oil Heater = 1.00 MMBtu/hr
Natural Gas Usage = 9 MMCF/yr, and
No. 2 Fuel Oil Usage = 0 gal/yr

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas (lb/ft³)</th>
<th>No. 2 Fuel Oil (lb/gal)</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Unlimited/Uncontrolled Potential to Emit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>8.90E-06</td>
<td>0.0112</td>
<td>0.039</td>
<td>0.000</td>
<td>0.639</td>
</tr>
</tbody>
</table>

Hazardous Air Pollutants

<table>
<thead>
<tr>
<th>Hazardous Air Pollutant</th>
<th>Unlimited/Uncontrolled Potential to Emit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methane</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Anthracene</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Benzonitrile</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Fluorene</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Pyrene</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

Total HAPs = 1.14E-04
Worst Single HAP = 1.14E-04 (Naphthalene)

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr)) * (Emission Factor (lb/CF)) * (1 MMCF/1,000 CF) * (ton/2000 lbs)
No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gal/yr)) * (Emission Factor (lb/gal)) * (ton/2000 lbs)

Unlimited Potential to Emit CO2 (ton/yr) = Unlimited Potential to Emit CO2 (ton/yr) * CO2 GWP (1)

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide
VOC = Volatile Organic Compound
CO2 = Carbon Dioxide
### Appendix A.2: Limited Emissions Summary

**Reciprocating Internal Combustion Engines - Diesel Fuel**

<table>
<thead>
<tr>
<th>Output Horsepower Rating (hp)</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited Hours Operated per Year</td>
<td>0</td>
</tr>
<tr>
<td>Limited Throughput (hp-hr/yr)</td>
<td>0</td>
</tr>
<tr>
<td>Limited Diesel Fuel Usage (gal/yr)</td>
<td>0</td>
</tr>
</tbody>
</table>

#### 1. Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0021</td>
<td>0.0310</td>
<td>0.0025</td>
</tr>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>43.07</td>
<td>43.07</td>
<td>43.07</td>
<td>40.13</td>
<td>606.85</td>
<td>49.22</td>
</tr>
<tr>
<td>Limited Emission in tons/yr</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

- PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

#### 2. Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>1,3-Butadiene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>1.28E-04</td>
<td>5.60E-04</td>
<td>3.91E-04</td>
<td>5.35E-04</td>
<td>1.05E-01</td>
<td>1.27E-01</td>
<td>1.28E-02</td>
</tr>
<tr>
<td>Limited Emission in tons/yr</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

- PAH = Polycyclic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Total PAH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>1.28E-04</td>
</tr>
<tr>
<td>Limited Emission in tons/yr</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

#### Methodology

- **Limited Throughput (hp-hr/yr)** = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]
- **Limited Diesel Fuel Usage (gal/yr)** = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (Btu/lb) * 1/7.1 (gal/lb)
- **Limited Emissions (tons/yr)** = [Limited Diesel Fuel Usage (gal/yr)] * Emission Factor (lb/kgal) / (1,000 gal/kgal) / (2,000 lb/ton)
## Appendix A.2: Limited Emissions Summary

### Large Reciprocating Internal Combustion Engines - Diesel Fuel

**Output Rating (>600 HP)**

<table>
<thead>
<tr>
<th>Output Horsepower Rating (hp)</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited Hours Operated per Year</td>
<td>0</td>
</tr>
<tr>
<td>Limited Throughput (hp-hr/yr)</td>
<td>0</td>
</tr>
<tr>
<td>Limited Diesel Fuel Usage (gal/yr)</td>
<td>0</td>
</tr>
</tbody>
</table>

**Company Name:** Harding Materials, Inc.

**Source Address:** 1100 South Tibbs Avenue, Indianapolis, IN 46241

**Permit Number:** F097-41186-00735

**Reviewer:** Mehul Sura

### Pollutant Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM</th>
<th>PM10</th>
<th>direct PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>7.00E-04</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>2.40E-02</td>
<td>7.05E-04</td>
<td>5.00E-03</td>
<td></td>
</tr>
<tr>
<td>Emission Factor in lb/MMBtu</td>
<td>0.0573</td>
<td>0.0573</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>13.70</td>
<td>7.85</td>
<td>7.85</td>
<td>0.00</td>
<td>469.82</td>
<td>13.80</td>
<td>107.67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Total PAH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/MMBtu</td>
<td>7.76E-04</td>
<td>2.81E-04</td>
<td>1.93E-04</td>
<td>7.85E-05</td>
<td>2.52E-05</td>
<td>7.88E-06</td>
<td>2.12E-04</td>
</tr>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>1.06E-01</td>
<td>3.85E-02</td>
<td>2.64E-02</td>
<td>1.08E-02</td>
<td>3.45E-03</td>
<td>1.08E-03</td>
<td>2.91E-02</td>
</tr>
</tbody>
</table>

### Methodology

**Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]**

**Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (Btu/lb) * 1/7.1 (gal/lb)**

Emission Factors are from AP 42 (Supplement B 1/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.

Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr) * Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)
Appendix A.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

The following calculations determine the limited fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Load-Out</th>
<th>Silo Filling</th>
<th>On-Site Yard</th>
<th>Load-Out</th>
<th>Silo Filling</th>
<th>On-Site Yard</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PM</td>
<td>5.35E-04</td>
<td>5.96E-04</td>
<td>NA</td>
<td>0.21</td>
<td>0.24</td>
<td>NA</td>
<td>0.45</td>
</tr>
<tr>
<td>Organic PM</td>
<td>3.4E-04</td>
<td>2.5E-04</td>
<td>NA</td>
<td>0.14</td>
<td>0.104</td>
<td>NA</td>
<td>0.24</td>
</tr>
<tr>
<td>TOC</td>
<td>0.004</td>
<td>0.012</td>
<td>0.001</td>
<td>1.71</td>
<td>5.00</td>
<td>0.451</td>
<td>7.2</td>
</tr>
<tr>
<td>CO</td>
<td>0.001</td>
<td>0.001</td>
<td>3.5E-04</td>
<td>0.65</td>
<td>0.489</td>
<td>0.144</td>
<td>1.18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM/HAPs</th>
<th>VOC/HAPs</th>
<th>non-VOC/HAPs</th>
<th>non-VOC/non-HAPs</th>
<th>Total VOCs</th>
<th>Total HAPs</th>
<th>Worst Single HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load-Out</td>
<td>0.010</td>
<td>0.012</td>
<td>0.007</td>
<td>0.03</td>
<td>0.032</td>
<td>0.095</td>
<td>0.036 (formaldehyde)</td>
</tr>
<tr>
<td>Silo Filling</td>
<td>0.025</td>
<td>0.064</td>
<td>0.007</td>
<td>0.12</td>
<td>0.095</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>On-Site Yard</td>
<td>1.3E-04</td>
<td>1.6E-05</td>
<td>3.6E-05</td>
<td>1.8E-04</td>
<td>7.0</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.04</td>
<td>0.08</td>
<td>0.007</td>
<td>0.12</td>
<td>0.12</td>
<td>0.12</td>
<td></td>
</tr>
</tbody>
</table>


**Methodology**

The asphalt temperature and volatility factor were provided by the source. Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton asphalt)) * (ton/2000 lbs).

Calculation of Emission Factors:

\[
\text{Total PM/PM10 EF} = 0.000181 + 0.00141(-V)e^{(0.0251)(T+460)-20.43} \\
\text{Organic PM EF} = 0.00141(-V)e^{(0.0251)(T+460)-20.43} \\
\text{TOC EF} = 0.0172(-V)e^{(0.0251)(T+460)-20.43} \\
\text{CO EF} = 0.00558(-V)e^{(0.0251)(T+460)-20.43} \\
\text{Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):} \\
\text{PM/PM10 EF} = 0.000332 + 0.00105(-V)e^{(0.0251)(T+460)-20.43} \\
\text{Organic PM EF} = 0.00105(-V)e^{(0.0251)(T+460)-20.43} \\
\text{TOC EF} = 0.00504(-V)e^{(0.0251)(T+460)-20.43} \\
\text{CO EF} = 0.00488(-V)e^{(0.0251)(T+460)-20.43} \\
\text{On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32.} \\
\]

*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.*

**Abbreviations**

- TOC = Total Organic Compounds
- CO = Carbon Monoxide
- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- HAP = Hazardous Air Pollutant
- VOC = Volatile Organic Compound
Appendix A.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

Organic Particulate-Based Compounds (Table 11.1-15)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP</th>
<th>Type</th>
<th>Source</th>
<th>Load-out</th>
<th>Silo Filling</th>
<th>Onsite Yard</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAH HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out</td>
<td>Silo Filling</td>
<td>Total</td>
<td>Load-out</td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>83-32-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.26% 0.47%</td>
<td>3.6E-04 4.9E-04</td>
<td>NA</td>
<td>8.5E-04</td>
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<tr>
<td>Acenaphthylene</td>
<td>208-96-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.028% 0.014%</td>
<td>3.9E-05 1.5E-05</td>
<td>NA</td>
<td>5.4E-05</td>
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<td>Anthracene</td>
<td>122-12-7</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.13% 0.13%</td>
<td>9.8E-05 1.4E-04</td>
<td>NA</td>
<td>2.3E-04</td>
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<tr>
<td>Benzo[a]anthracene</td>
<td>56-55-3</td>
<td>PM/HAP</td>
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<td>Organic PM</td>
<td>0.019% 0.045%</td>
<td>2.7E-05 5.8E-05</td>
<td>NA</td>
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<td>Benzo[b]fluoranthene</td>
<td>205-95-2</td>
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<td>POM</td>
<td>Organic PM</td>
<td>0.0076% 0</td>
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<td>0.0022% 0</td>
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<td>POM</td>
<td>Organic PM</td>
<td>0.0023% 0</td>
<td>3.2E-06 0</td>
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<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0068% 0.0055%</td>
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<td>NA</td>
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<td>Chrysene</td>
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<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.103% 0.21%</td>
<td>1.4E-04 2.2E-04</td>
<td>NA</td>
<td>3.6E-04</td>
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<td>Dibenz[a,h]anthracene</td>
<td>53-79-3</td>
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<td>Organic PM</td>
<td>0.09257% 0</td>
<td>5.2E-07 0</td>
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<tr>
<td>Fluoranthene</td>
<td>204-44-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.05% 0.15%</td>
<td>7.9E-05 1.8E-04</td>
<td>NA</td>
<td>2.3E-04</td>
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<tr>
<td>Fluorene</td>
<td>86-73-7</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.77% 1.01%</td>
<td>1.1E-03 1.1E-03</td>
<td>NA</td>
<td>2.1E-03</td>
<td></td>
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<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
<td>193-59-5</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.00347% 0</td>
<td>6.6E-07 0</td>
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<tr>
<td>2-Methylpyridine</td>
<td>91-51-6</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>2.38% 0.27%</td>
<td>3.3E-03 5.5E-03</td>
<td>NA</td>
<td>0.009</td>
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<td>Naphthalene</td>
<td>91-20-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>1.35% 1.82%</td>
<td>1.7E-03 1.9E-03</td>
<td>NA</td>
<td>3.6E-03</td>
<td></td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>128-55-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.022% 0.03%</td>
<td>3.1E-05 3.1E-05</td>
<td>NA</td>
<td>6.2E-05</td>
<td></td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>85-31-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.81% 1.80%</td>
<td>1.1E-03 1.9E-03</td>
<td>NA</td>
<td>3.0E-03</td>
<td></td>
</tr>
<tr>
<td>Pyrene</td>
<td>126-90-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.15% 0.44%</td>
<td>2.1E-04 4.6E-04</td>
<td>NA</td>
<td>6.7E-04</td>
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</tr>
<tr>
<td>Total PAH HAPs</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>0.008</td>
<td>0.012</td>
<td>NA</td>
<td>0.020</td>
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<tr>
<td>Other semi-volatile HAPs</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
<td>PM/HAP</td>
<td>---</td>
<td>Organic PM</td>
<td>1.18% 0</td>
<td>1.6E-03 0</td>
<td>0</td>
<td>1.6E-03</td>
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</tr>
</tbody>
</table>

NA = Not Applicable (no AP-42 Emission Factor)

Methodology
Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]

Abbreviations
PM = Particulate Matter
HAP = Hazardous Air Pollutant
POM = Polycyclic Organic Matter
## Appendix A.2: Limited Emissions Summary
### Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)
#### Limited Emissions

### Organic Volatile-Based Compounds (Table 11.1-16)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP Type</th>
<th>Source</th>
<th>Load-out and Onsite Yard (% by weight of TOC)</th>
<th>Silo Filling and Asphalt Storage Tank (% by weight of TOC)</th>
<th>Load-out</th>
<th>Silo Filling</th>
<th>Onsite Yard</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>VOC</td>
<td>---</td>
<td>TOC</td>
<td>94%</td>
<td>1.00</td>
<td>5.00</td>
<td>8.00</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Non-VOC/non-HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td>74-88-2</td>
<td>non-VOC/non-HAP</td>
<td>---</td>
<td>TOC</td>
<td>8.50%</td>
<td>0.26%</td>
<td>1.1E-01</td>
<td>1.3E-02</td>
<td>2.1E-02</td>
<td>0.153</td>
</tr>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>non-VOC/non-HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.046%</td>
<td>0.055%</td>
<td>7.8E-04</td>
<td>2.7E-03</td>
<td>2.1E-04</td>
<td>0.004</td>
</tr>
<tr>
<td>Ethylene</td>
<td>74-85-1</td>
<td>non-VOC/non-HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.71%</td>
<td>1.10%</td>
<td>1.2E-02</td>
<td>5.8E-02</td>
<td>4.1E-03</td>
<td>0.870</td>
</tr>
<tr>
<td>Total non-VOC/non-HAPs</td>
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<td></td>
<td></td>
<td></td>
<td>7.30%</td>
<td>1.40%</td>
<td>0.124</td>
<td>0.070</td>
<td>0.033</td>
<td>0.23</td>
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<td>Volatile organic HAPs</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.052%</td>
<td>0.032%</td>
<td>8.9E-04</td>
<td>1.6E-03</td>
<td>2.3E-04</td>
<td>2.7E-03</td>
</tr>
<tr>
<td>Bromoform</td>
<td>74-83-9</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.0956%</td>
<td>0.0049%</td>
<td>1.6E-04</td>
<td>2.4E-04</td>
<td>3.8E-05</td>
<td>4.5E-04</td>
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<tr>
<td>Ethylene</td>
<td>75-15-9</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.046%</td>
<td>0.038%</td>
<td>8.4E-04</td>
<td>1.8E-03</td>
<td>2.2E-04</td>
<td>3.0E-03</td>
</tr>
<tr>
<td>Carbon Disulfide</td>
<td>75-09-0</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.013%</td>
<td>0.018%</td>
<td>2.2E-04</td>
<td>8.0E-04</td>
<td>5.6E-05</td>
<td>1.1E-03</td>
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<tr>
<td>Chloroethane</td>
<td>74-89-3</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.00321%</td>
<td>0.004%</td>
<td>3.6E-05</td>
<td>2.0E-04</td>
<td>9.5E-07</td>
<td>2.0E-04</td>
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<tr>
<td>Chloroform</td>
<td>74-82-8</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.018%</td>
<td>0.024%</td>
<td>2.8E-04</td>
<td>1.1E-03</td>
<td>3.8E-05</td>
<td>1.9E-03</td>
</tr>
<tr>
<td>Cumeene</td>
<td>92-82-8</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.11%</td>
<td>0</td>
<td>1.9E-03</td>
<td>0</td>
<td>5.0E-04</td>
<td>2.4E-03</td>
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<tr>
<td>Ethylbenzene</td>
<td>100-41-9</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.23%</td>
<td>0.088%</td>
<td>4.8E-03</td>
<td>1.9E-03</td>
<td>1.9E-03</td>
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<td>Formaldehyde</td>
<td>50-00-9</td>
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<td>---</td>
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<td>0.088%</td>
<td>0.10%</td>
<td>2.8E-03</td>
<td>5.0E-03</td>
<td>6.8E-04</td>
<td>0.008</td>
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<td>TOC</td>
<td>0.014%</td>
<td>0.00021%</td>
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<td>1.5E-03</td>
<td>8.1E-08</td>
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<td>0</td>
<td>0.00027%</td>
<td>0</td>
<td>1.3E-05</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0.0054%</td>
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<td>4.3E-04</td>
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<td>TOC</td>
<td>0.0077%</td>
<td>0</td>
<td>1.3E-04</td>
<td>0</td>
<td>3.6E-05</td>
<td>1.7E-04</td>
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<td>Vinylene</td>
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<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.21%</td>
<td>0.066%</td>
<td>3.5E-03</td>
<td>7.6E-03</td>
<td>3.8E-04</td>
<td>0.008</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
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<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
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<td>79-01-6</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>TOC</td>
<td>0.0019%</td>
<td>0</td>
<td>2.2E-05</td>
<td>0</td>
<td>5.6E-06</td>
<td>2.8E-05</td>
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<tr>
<td>In/p-Xylene</td>
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<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.41%</td>
<td>0.20%</td>
<td>7.0E-03</td>
<td>1.0E-02</td>
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<td>Xylene</td>
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<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.50%</td>
<td>0.037%</td>
<td>1.4E-03</td>
<td>2.1E-03</td>
<td>3.0E-04</td>
<td>0.008</td>
</tr>
<tr>
<td>Total volatile organic HAPs</td>
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<td></td>
<td></td>
<td></td>
<td>1.50%</td>
<td>1.30%</td>
<td>0.028</td>
<td>0.065</td>
<td>0.007</td>
<td>0.997</td>
</tr>
</tbody>
</table>

**Methodology**

Limited Potential to Emit (tons/yr) = [Speciation Profile (%) * [TOC (tons/yr)]]


**Abbreviations**

TOC = Total Organic Compounds  
HAP = Hazardous Air Pollutant  
VOC = Volatile Organic Compound  
MTBE = Methyl tert butyl ether
Appendix A.2: Limited Emissions Summary
Material Storage Piles

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: FG97-41186-00735
Reviewer: Mehul Sura

Note: Since the emissions from the storage piles are minimal, the limited emissions are equal to the unlimited emissions.

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

\[
EF = 1.7 \times (s/1.5) \times (365 - p)/235 \times (f/15)
\]

where \( EF \) = emission factor (lb/acre/day)
\( s \) = silt content (wt %)
\( p \) = 125 days of rain greater than or equal to 0.01 inches
\( f \) = 15 % of wind greater than or equal to 12 mph

<table>
<thead>
<tr>
<th>Material</th>
<th>Silt Content (wt %)*</th>
<th>Emission Factor (lb/acre/day)</th>
<th>Maximum Anticipated Pile Size (acres)**</th>
<th>PTE of PM (tons/yr)</th>
<th>PTE of PM10/PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>2.6</td>
<td>0.01</td>
<td>0.85</td>
<td>0.435</td>
<td>0.154</td>
</tr>
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<td>Limestone</td>
<td>1.6</td>
<td>1.85</td>
<td>1.30</td>
<td>0.439</td>
<td>0.154</td>
</tr>
<tr>
<td>RAP</td>
<td>0.5</td>
<td>0.58</td>
<td>1.40</td>
<td>0.148</td>
<td>0.052</td>
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<tr>
<td>Gravel</td>
<td>1.5</td>
<td>1.86</td>
<td>1.20</td>
<td>0.406</td>
<td>0.142</td>
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<tr>
<td>Shingles</td>
<td>0.5</td>
<td>0.58</td>
<td>0</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Slag</td>
<td>3.8</td>
<td>4.49</td>
<td>2</td>
<td>0.000</td>
<td>0.000</td>
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</table>

Totals 1.43 0.50

Methodology
PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) \times (Maximum Pile Size (acres)) \times (ton/2000 lbs) \times (8760 hours/yr)
PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) \times 35%

* Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)
** Maximum anticipated pile size (acres) provided by the source.

Abbreviations
RAP = recycled asphalt pavement
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit
Appendix A.2: Limited Emissions Summary

Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

\[ Ef = k \times \left( \frac{0.0032}{(U/5)^{1.3}} \right) \times \left( \frac{M/2}{10} \right)^{1.4} \]

where:
- \( Ef \) = Emission factor (lb/ton)
- \( k \) (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
- \( k \) (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
- \( k \) (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
- \( U \) = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
- \( M \) = 4.7 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)

\[ Ef \text{ (PM)} = 2.27 \times 10^{-3} \text{ lb PM/ton of material handled} \]
\[ Ef \text{ (PM10)} = 1.07 \times 10^{-3} \text{ lb PM10/ton of material handled} \]
\[ Ef \text{ (PM2.5)} = 1.62 \times 10^{-4} \text{ lb PM2.5/ton of material handled} \]

Annual Asphalt Production Limitation = 820,000 tons/yr

Percent Asphalt Cement/Binder (weight %) = 5.0%

Maximum Material Handling Throughput = 725,000 tons/yr

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Limited PTE of PM (tons/yr)</th>
<th>Limited PTE of PM10 (tons/yr)</th>
<th>Limited PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck unloading of materials into storage piles</td>
<td>0.88</td>
<td>0.42</td>
<td>0.06</td>
</tr>
<tr>
<td>Front-end loader dumping of materials into feeder bins</td>
<td>0.88</td>
<td>0.42</td>
<td>0.06</td>
</tr>
<tr>
<td>Conveyor dropping material into dryer/mixer or batch tower</td>
<td>0.88</td>
<td>0.42</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Total (tons/yr) = 2.65 1.25 0.19

Methodology

The percent asphalt cement/binder provided by the source.

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]

Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additivies

*Worst case annual mean wind speed (Indianapolis, IN) from “Comparative Climatic Data”, National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 19.2.2)

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 19.2.2 (dated 8/04) are utilized.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Uncontrolled Emission Factor for PM (lb/ton)*</th>
<th>Uncontrolled Emission Factor for PM10 (lb/ton)*</th>
<th>Limited PTE of PM (tons/yr)</th>
<th>Limited PTE of PM10 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing</td>
<td>0.0044</td>
<td>0.0024</td>
<td>2.10</td>
<td>0.93</td>
</tr>
<tr>
<td>Screening</td>
<td>0.026</td>
<td>0.0087</td>
<td>9.74</td>
<td>1.39</td>
</tr>
<tr>
<td>Conveying</td>
<td>0.003</td>
<td>0.0011</td>
<td>1.17</td>
<td>0.43</td>
</tr>
</tbody>
</table>

Limited Potential to Emit (tons/yr) = 13.91 4.75

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]

Limited Potential to Emit (tons/yr) = ([Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)]) * [ton/2000 lbs]

Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)


**Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 2 to 5 percent by weight (Source: AP-42 Section 11.1.1.1). **

**Assumes PM10 = PM2.5

Abbreviations
- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- PTE = Potential to Emit
Appendix A.2: Limited Emissions Summary

Unpaved Roads

Company Name: Harding Materials, Inc. 5
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (2003).

Average Vehicle Weight Per Trip = 20.2 tons/trip
Average Miles Per Trip = 0.050 miles/trip

Unmitigated Emission Factor, \( E_u = \left[ \frac{s}{b} \right] \left[ \frac{a}{w} \right] \) (Equation 1a from AP-42 13.2.2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, \( E_{\text{ext}} = E_u \left[ 365 - P \right] / 365 \)

\( \text{Average Vehicle Weight Per Trip} = \text{Average Miles Per Trip} = \frac{\text{Total Weight driven per year (ton/yr)}}{\text{Maximum trips per year (trip/yr)}} \)
\( \text{Unmitigated Emission Factor, } E_u = \frac{\text{Unmitigated PTE (tons/yr)}}{\text{Average  Miles Per Trip (miles/trip)}} \)
\( \text{Mitigated Emission Factor, } E_{\text{ext}} = \frac{\text{Mitigated PTE (tons/yr)}}{\text{Average Vehicle Weight Per Trip (ton/trip)}} \)

### Methodology

**Maximum Material Handling Throughput** = Annual Asphalt Production Limitation (tons/yr) * (1 - Percent Asphalt Cement/Binder (weight %))

**Maximum Weight of Load (tons/yr)** = Maximum Weight of Vehicle and Load (tons/trip) * Maximum trips per year (trip/yr)

**Maximum one-way distance (mi/trip)** = Average  Miles Per Trip (miles/trip)

**Maximum Weight of Vehicle (tons/yr)** = Maximum one-way miles (miles/yr) * Max Weight of Vehicle and Load (tons/yr)

**Maximum one-way distance (miles)** = Average Vehicle Weight Per Trip (ton/trip) * Maximum Weight of Load (tons/ton)

**Maximum Weight of Vehicle and Load (tons/yr)** = **Maximum Material Handling Throughput** - **Maximum one-way distance (miles)** * **Maximum Weight of Load (tons/yr)**

**Maximum trips per year (trip/yr)** = **Maximum one-way distance (miles)** / Average  Miles Per Trip (miles/trip)

**Total Weight driven per year (ton/yr)** = **Maximum Weight of Vehicle (tons/yr)** * **Maximum trips per year (trip/yr)**

**Total Weight driven per year (ton/yr)** = **Maximum one-way distance (miles)** * Average Vehicle Weight Per Trip (ton/trip) * Average  Miles Per Trip (miles/trip)

**Average Vehicle Weight Per Trip (ton/trip)** = **Maximum Weight of Vehicle and Load (tons/yr)** / **Maximum trips per year (trip/yr)**

**Average  Miles Per Trip (miles/trip)** = **Maximum one-way distance (miles)** / **Maximum trips per year (trip/yr)**

**Maximum one-way miles (miles/yr)** = **Total Weight driven per year (ton/yr)** / **Average Vehicle Weight Per Trip (ton/trip)**

### Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (>10 um)
PM2.5 = Particulate Matter (>2.5 um)
PTE = Potential to Emit
### Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

#### Appendix A2: Limited Emissions Summary

<table>
<thead>
<tr>
<th>Process</th>
<th>Vehicle Type</th>
<th>Maximum Weight of Vehicle (tons)</th>
<th>Maximum Weight of Load (tons)</th>
<th>Maximum Weight driven per trip (ton/yr)</th>
<th>Maximum one-way distance (mi/yr)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (mi/day)</th>
<th>Maximum one-way distance (mi/trip)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Concrete Truck Enter Empty</td>
<td>Asphalt</td>
<td>12.0</td>
<td>32.0</td>
<td>0.01</td>
<td>3.98</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Asphalt Concrete Truck Leave Empty</td>
<td>Asphalt</td>
<td>12.0</td>
<td>32.0</td>
<td>0.01</td>
<td>3.98</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Asphalt/Cement/Binder Truck Leave Empty</td>
<td>Asphalt/Cement/Binder</td>
<td>12.0</td>
<td>32.0</td>
<td>0.01</td>
<td>3.98</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Fuel Oil Truck Leave Empty</td>
<td>Fuel Oil</td>
<td>12.0</td>
<td>32.0</td>
<td>0.01</td>
<td>3.98</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Aggregate/RAP Loader Leave Empty</td>
<td>Aggregate/RAP</td>
<td>12.0</td>
<td>32.0</td>
<td>0.01</td>
<td>3.98</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Aggregate/RAP Truck Leave Empty</td>
<td>Aggregate/RAP</td>
<td>12.0</td>
<td>32.0</td>
<td>0.01</td>
<td>3.98</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
</tbody>
</table>

#### Methodology

Maximum Material Handling Throughput = Annual Asphalt Production Limitation (tons/yr) * (1 - Percent Asphalt Cement/Binder (weight %))

Maximum Asphalt Cement/Binder Throughput = Annual Asphalt Production Limitation (tons/yr) * (Percent Asphalt Cement/Binder (weight %))

Maximum Weight of Vehicle and Load (tons/trip) = Maximum Weight of Vehicle (tons/trip) + Maximum Weight of Load (tons/trip)

Maximum trips per year (trips/yr) = Maximum one-way distance (mi/trip) / Maximum Weight of Load (tons/trip)

Average Vehicle Weight per Trip = Total Weight driven per year (ton/yr) / Average Miles per Trip (miles/trip)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_{f} * (1 - \frac{p}{4N})$

Unmitigated Emission Factor, $E_{f} = \frac{sL}{100} * (\frac{k}{sL})^{0.91} * (W)^{1.02}$ (Equation 1 from AP-42 13.2.1.1)

where $p = \frac{0.001}{(0.001)^{4} + 1}$ days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)

$N = \frac{365}{12}$ days per year

#### Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

Unmitigated PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

PTE of PM10 = Particulate Matter (<10 um)

PTE of PM2.5 = Particulate Matter (<2.5 um)

Average Vehicle Weight Per Trip = Average Miles Per Trip * PTE of PM10 / Average Miles Per Trip

Unmitigated Emission Factor, $E_{f} = 0.15$ (lb/mile)

Mitigated Emission Factor, $E_{ext} = 0.01$ (lb/mile)

Dust Control Efficiency = 70% (consistent to control measures outlined in fugitive dust control plan)
Appendix A.2: Limited Emissions Summary
Cold Mix Asphalt Production and Stockpiles

Company Name: Harding Materials, Inc.
Source Address: 1100 South Tibbs Avenue, Indianapolis, IN 46241
Permit Number: F097-41186-00735
Reviewer: Mehul Sura

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production.

Limited VOC Emissions from the Sum of the Liquid Binders = 0 tons/yr

<table>
<thead>
<tr>
<th>Liquid Binder</th>
<th>Maximum weight % of VOC solvent in binder</th>
<th>Weight % VOC solvent in binder that evaporates</th>
<th>VOC Solvent Usage Limitation (tons/yr)</th>
<th>Limited PTE of VOC (tons/yr)</th>
<th>Liquid Binder Adjustment Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)</td>
<td>25.3%</td>
<td>95.0%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.000</td>
</tr>
<tr>
<td>Cut back asphalt medium cure (assuming kerosene solvent)</td>
<td>28.6%</td>
<td>70.0%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.000</td>
</tr>
<tr>
<td>Cut back asphalt slow cure (assuming fuel oil solvent)</td>
<td>20.0%</td>
<td>25.0%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.000</td>
</tr>
<tr>
<td>Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)</td>
<td>15.0%</td>
<td>46.4%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.000</td>
</tr>
<tr>
<td>Other asphalt with solvent binder</td>
<td>25.9%</td>
<td>2.5%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Worst Case Limited PTE of VOC = 0.0

Hazardous Air Pollutants

| Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents |
|----------------|--------------------------|----------------|----------------|
| Volatile Organic Compound | CAS# | Gasoline | Kerosene | Diesel (#2) |
| 1,3-Butadiene | 106-96-0 | 3.70E-5% | 3.70E-5% | 3.70E-5% |
| 2,3-Tri-Methylpentane | 144-84-1 | 2.40% | 2.40% | 2.40% |
| Acenaphthene | 110-73-9 | 1.80E-4% | 1.80E-4% | 1.80E-4% |
| Acenaphthylene | 208-96-8 | 4.50E-5% | 4.50E-5% | 4.50E-5% |
| Anthracene | 120-12-7 | 1.20E-6% | 1.20E-6% | 1.20E-6% |
| Benzene | 71-43-2 | 1.80% | 1.80% | 1.80% |
| Benzo(a)anthracene | 125-55-3 | 9.60E-4% | 9.60E-4% | 9.60E-4% |
| Benzo(a)pyrene | 205-30-8 | 2.20E-4% | 2.20E-4% | 2.20E-4% |
| Benzo(b)pyrene | 191-24-2 | 1.20E-7% | 1.20E-7% | 1.20E-7% |
| Benzo(k)fluoranthene | 92-52-4 | 6.30E-4% | 6.30E-4% | 6.30E-4% |
| Benzpyrene | 216-01-9 | 4.50E-7% | 4.50E-7% | 4.50E-7% |
| Biphenyl | 104-41-4 | 1.70% | 1.70% | 1.70% |
| Chrysene | 96-73-7 | 4.20E-6% | 4.20E-6% | 4.20E-6% |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.60E-6% | 1.60E-6% | 1.60E-6% |
| Methyl-tert-butylether | 1634-04-4 | 0.33% | 0.33% | 0.33% |
| Naphthalene | 91-20-3 | 0.25% | 0.25% | 0.25% |
| Naphthylenes | 110-54-3 | 2.40% | 2.40% | 2.40% |
| Phenanthrene | 90-01-9 | 8.60E-4% | 8.60E-4% | 8.60E-4% |
| Pyrene | 123-00-0 | 2.40E-6% | 2.40E-6% | 2.40E-6% |
| Xylenes | 108-89-3 | 1.00E-6% | 1.00E-6% | 1.00E-6% |

Total Organic HAPs | 26.98% | 0.33% | 1.25% | 0.68% | 0.19% |

Methodology
Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]
Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Limited PTE of VOC (tons/yr)]
Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Limited PTE of VOC (tons/yr)]

Composition of Petroleum Mixtures. The Association for Environmental Health and Science.
September 13, 2019

Russ Blake
Harding Materials Inc
10154 Hague Rd
Indianapolis, IN 46256

Re: Public Notice
Harding Materials
Permit Level: FESOP Renewal / Sig New Source
Permit Number: 097-41186-00735

Dear Russ Blake:

Enclosed is a copy of your draft FESOP Renewal / Sig New Source Review (120), Technical Support Document, emission calculations, and the Public Notice.

The Public Notice period will begin the date the Notice is published on the IDEM Official Public Notice website. Publication has been requested and is expected within 2-3 business days. You may check the exact Public Notice begins and ends date here: https://www.in.gov/idem/5474.htm

Please note that as of April 17, 2019, IDEM is no longer required to publish the notice in a newspaper.

OAQ has submitted the draft permit package to the West Indianapolis Library Branch 1216 South Kappes St. Indianapolis IN 46221. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Mehul Sura, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 3-6868 or dial (317) 233-6868.

Sincerely,

L. Pogost

L. Pogost
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter 4/12/19
September 13, 2019

To: West Indianapolis Library Branch 1216 South Kappes St. Indianapolis IN 46221 (Library)

From: Jenny Acker, Branch Chief
Permits Branch
Office of Air Quality

Subject: Important Information to Display Regarding a Public Notice for an Air Permit

Applicant Name: Harding Materials
Permit Number: 097-41186-00735

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. Please make this information readily available until you receive a copy of the final package.

If you have any questions concerning this public review process, please contact Joanne Smiddle-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library updated 4/2019
Notice of Public Comment

September 13, 2019
Harding Materials
097-41186-00735

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has posted on IDEM’s Public Notice website at https://www.in.gov/idem/5474.htm.

The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana’s Air Permitting Program.

Please Note: If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.
Mail Code 61-53

<table>
<thead>
<tr>
<th>IDEM Staff</th>
<th>LPOGOST  9/13/2019 Harding Materials Inc 097-41186-00735  (draft/)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name and address of Sender</td>
<td>Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204</td>
</tr>
<tr>
<td>Type of Mail:</td>
<td>CERTIFICATE OF MAILING ONLY</td>
</tr>
<tr>
<td>AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING</td>
<td></td>
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<tr>
<th>Line</th>
<th>Article Number</th>
<th>Name, Address, Street and Post Office Address</th>
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<th>Handing Charges</th>
<th>Act. Value (If Registered)</th>
<th>Insured Value</th>
<th>Due Send if COD</th>
<th>R.R. Fee</th>
<th>S.D. Fee</th>
<th>S.H. Fee</th>
<th>Rest. Del. Fee</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td>Russ Blake Harding Materials Inc 10154 Hague Rd Indianapolis IN 46256 (Source CAATS)</td>
<td></td>
<td></td>
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<td></td>
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<td>Tyler Smith Harding Materials Inc 10154 Hague Rd Indianapolis IN 46256 (RO CAATS)</td>
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<td>Marion County Health Department 3838 N. Rural St Indianapolis IN 46205-2930 (Health Department)</td>
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<td>4</td>
<td></td>
<td>West Indianapolis Library Branch 1216 South Kappes St. Indianapolis IN 46221 (Library)</td>
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<tr>
<td>5</td>
<td></td>
<td>Indianapolis City Council and Mayors office 200 East Washington Street, Room E Indianapolis IN 46204 (Local Official)</td>
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<td>Marion County Commissioners 200 E. Washington St. City County Bldg., Suite 801 Indianapolis IN 46204 (Local Official)</td>
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<td>Matt Mosier Office of Sustainability City-County Bldg/200 E Washington St. Rm# 2460 Indianapolis IN 46204 (Local Official)</td>
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<td>Johan &amp; Susan Van Den Heuvel 4409 Blue Creek Drive Carmel IN 46033 (Affected Party)</td>
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<td>Rosario Molian 3501 Morris Street Indianapolis IN 46241 (Affected Party)</td>
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<td>Ricardo &amp; Tracy Rosales 3359 W Morris Street Indianapolis IN 46241 (Affected Party)</td>
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<td>Republic Western Insurance Company 3320 W Morris Street Indianapolis IN 46241 (Affected Party)</td>
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<td>Parts Festival 7.13, LLC 900 S Tibbs Avenue Indianapolis IN 46241 (Affected Party)</td>
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<td>Parts Fair, LLC 11349 W Manhattan Road Monee IL 60449 (Affected Party)</td>
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The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on insured and COD mail. See International Mail Manual for limitations on coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
**Mail Code 61-53**

<table>
<thead>
<tr>
<th>Name and address of Sender</th>
<th>Type of Mail:</th>
<th>AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING</th>
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<td>Harding Materials Inc</td>
<td>CERTIFICATE OF MAILING ONLY</td>
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<th>Line</th>
<th>Article Number</th>
<th>Name, Address, Street and Post Office Address</th>
<th>Postage</th>
<th>Handing Charges</th>
<th>Act. Value (If Registered)</th>
<th>Insured Value</th>
<th>Due Send if COD</th>
<th>R.R. Fee</th>
<th>S.D. Fee</th>
<th>S.H. Fee</th>
<th>Rest. Del. Fee</th>
<th>Remarks</th>
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<td>Planning Div., Dept. of Metropolitan Development 1735 S. West St. Indianapolis IN 46225 (Local Official)</td>
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<td>City of Indianapolis, Attn: General Council 200 East Washington Street Indianapolis IN 46204 (Affected Party)</td>
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<td>Sebastian Valverde 4235 Springwood Trail Indianapolis IN 46228 (Affected Party)</td>
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**Total number of pieces Listed by Sender**

**Total number of Pieces Received at Post Office**

**Postmaster, Per (Name of Receiving employee)**

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50,000 per occurrence. The maximum indemnity payable on Express mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See *Domestic Mail Manual* R900, S913, and S921 for limitations of coverage on insured and COD mail. See *International Mail Manual* for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.